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Note: Addenda information is NOT included with the electronic documents available via electronic file transfer. Only bidder or non-bidder package holders listed with the Caltrans Plans and Bid Documents section as described above will receive addenda information.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NOTICE TO CONTRACTORS
AND
SPECIAL PROVISIONS
FOR CONSTRUCTION ON STATE HIGHWAY IN
SAN BERNARDINO COUNTY IN ONTARIO AND UPLAND
FROM HOLT BLVD. TO "G" STREET

DISTRICT 08, ROUTE 83

**For Use in Connection with Standard Specifications Dated JULY 1999, Standard Plans Dated JULY 1999, and Labor
Surcharge and Equipment Rental Rates.**

CONTRACT NO. 08-499404
08-SBd-83-15.1/19.5

Bids Open: May 31, 2001
Dated: April 30, 2001

IMPORTANT SPECIAL NOTICES

- **Payment Bonds**

Attention is directed to Section 5 of the Special Provisions, regarding contract bonds. The payment bond shall be in a sum not less than one hundred percent of the total amount payable by the terms of the contract.

This project includes, but is not limited to, the following special requirements:

- Attention is directed to the Notice to Contractors regarding the bid opening location.
- Attention is directed to Section 4, "Beginning of Work, Time of Completion and Liquidated Damages," of these Special Provisions regarding beginning of work restrictions.

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STANDARD PLANS LIST

The Standard Plan sheets applicable to this contract include, but are not limited to those indicated below. The Revised Standard Plans (RSP) and New Standard Plans (NSP) which apply to this contract are included as individual sheets of the project plans.

A10A	Abbreviations
A10B	Symbols
A20A	Pavement Markers and Traffic Lines, Typical Details
A20B	Pavement Markers and Traffic Lines, Typical Details
A20C	Pavement Markers and Traffic Lines, Typical Details
A20D	Pavement Markers and Traffic Lines, Typical Details
A24A	Pavement Markings - Arrows
A24B	Pavement Markings - Arrows
A24C	Pavement Markings - Symbols and Numerals
A24D	Pavement Markings - Words
A24E	Pavement Markings - Words and Crosswalks
A73A	Object Markers
T11	Traffic Control System for Lane Closure On Multilane Conventional Highways
T12	Traffic Control System for Lane Closure On Multilane Conventional Highways
T13	Traffic Control System for Lane Closure On Two Lane Conventional Highways
T14	Traffic Control System for Ramp Closure
T15	Traffic Control System for Moving Lane Closure On Multilane Highways
T16	Traffic Control System for Moving Lane Closure On Multilane Highways
T17	Traffic Control System for Moving Lane Closure On Two Lane Highways
ES-1A	Signal, Lighting and Electrical Systems - Symbols and Abbreviations
ES-1B	Signal, Lighting and Electrical Systems - Symbols and Abbreviations
ES-5A	Signal, Lighting and Electrical Systems - Detectors
ES-5B	Signal, Lighting and Electrical Systems - Detectors
ES-13A	Signal, Lighting and Electrical Systems - Splicing Details

DEPARTMENT OF TRANSPORTATION

NOTICE TO CONTRACTORS

CONTRACT NO. 08-499404

08-SBd-83-15.1/19.5

Sealed proposals for the work shown on the plans entitled:

**STATE OF CALIFORNIA; DEPARTMENT OF TRANSPORTATION; PROJECT PLANS FOR CONSTRUCTION
ON STATE HIGHWAY IN SAN BERNARDINO COUNTY IN ONTARIO AND UPLAND
FROM HOLT BLVD. TO "G" STREET**

will be received at the Department of Transportation, 3347 Michelson Drive, Suite 100, Irvine, CA 92612-1692, until 2 o'clock p.m. on May 31, 2001, at which time they will be publicly opened and read in Room C - 1116 at the same address.

Proposal forms for this work are included in a separate book entitled:

**STATE OF CALIFORNIA; DEPARTMENT OF TRANSPORTATION; PROPOSAL AND CONTRACT FOR
CONSTRUCTION ON STATE HIGHWAY IN SAN BERNARDINO COUNTY IN ONTARIO AND UPLAND
FROM HOLT BLVD. TO "G" STREET**

General work description: Place Bonded Wear Surface on Roadway.

This project has a goal of 3 percent disabled veteran business enterprise (DVBE) participation.

No prebid meeting is scheduled for this project.

Bids are required for the entire work described herein.

At the time this contract is awarded, the Contractor shall possess either a Class A license or one of the following Class C licenses: C-12.

The Contractor must also be properly licensed at the time the bid is submitted, except that on a joint venture bid a joint venture license may be obtained by a combination of licenses after bid opening but before award in conformance with Business and Professions Code, Section 7029.1.

This contract is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990.

Preference will be granted to bidders properly certified as a "Small Business" as determined by the Department of General Services, Office of Small Business Certification and Resources at the time of bid opening in conformance with the provisions in Section 2-1.05, "Small Business Preference," of the special provisions, and Section 1896 et seq, Title 2, California Code of Regulations. A form for requesting a "Small Business" preference is included with the bid documents. Applications for status as a "Small Business" must be submitted to the Department of General Services, Office of Small Business Certification and Resources, 1531 "I" Street, Second Floor, Sacramento, CA 95814, Telephone No. (916) 322-5060.

A reciprocal preference will be granted to "California company" bidders in conformance with Section 6107 of the Public Contract Code. (See Sections 2 and 3 of the special provisions.) A form for indicating whether bidders are or are not a "California company" is included in the bid documents and is to be filled in and signed by all bidders.

Project plans, special provisions, and proposal forms for bidding this project can only be obtained at the Department of Transportation, Plans and Bid Documents, Room 0200, MS #26, Transportation Building, 1120 N Street, Sacramento, California 95814, FAX No. (916) 654-7028, Telephone No. (916) 654-4490. Use FAX orders to expedite orders for project plans, special provisions and proposal forms. FAX orders must include credit card charge number, card expiration date and authorizing signature. Project plans, special provisions, and proposal forms may be seen at the above Department of Transportation office and at the offices of the District Directors of Transportation at Irvine, Oakland, and the district in which the work is situated. Standard Specifications and Standard Plans are available through the State of California, Department of Transportation, Publications Unit, 1900 Royal Oaks Drive, Sacramento, CA 95815, Telephone No. (916) 445-3520.

Cross sections for this project are not available.

The successful bidder shall furnish a payment bond and a performance bond.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county, or counties, in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at the Labor Compliance Office at the offices of the District Director of Transportation for the district in which the work is situated, and available from the California Department of Industrial Relations' Internet Web Site at: <http://www.dir.ca.gov>. Future effective general prevailing wage rates which have been predetermined and are on file with the Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

DEPARTMENT OF TRANSPORTATION

Deputy Director Transportation Engineering

Dated April 30, 2001

MCT

COPY OF ENGINEER'S ESTIMATE
(NOT TO BE USED FOR BIDDING PURPOSES)
08-499404

Item	Item Code	Item	Unit of Measure	Estimated Quantity
1 (S)	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM
2 (S)	120116	TYPE II BARRICADE	EA	160
3 (S)	120200	FLASHING BEACON (PORTABLE)	EA	38
4	150714	REMOVE THERMOPLASTIC TRAFFIC STRIPE	M	10 300
5	150715	REMOVE THERMOPLASTIC PAVEMENT MARKING	M2	1240
6	150722	REMOVE PAVEMENT MARKER	EA	820
7 (S)	021197	COLD PLANE ASPHALT CONCRETE PAVEMENT (19 MM MAX)	M2	13 100
8 (S)	153152	COLD PLANE ASPHALT CONCRETE PAVEMENT (30 MM MAXIMUM)	M2	1940
9	374492	ASPHALTIC EMULSION (POLYMER MODIFIED)	TONN	170
10	021198	BONDED WEARING COURSE	TONN	6500
11 (S)	840501	THERMOPLASTIC TRAFFIC STRIPE	M	80
12 (S)	840515	THERMOPLASTIC PAVEMENT MARKING	M2	1240
13 (S)	840560	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)	M	16 800
14 (S)	850111	PAVEMENT MARKER (RETROREFLECTIVE)	EA	820
15 (S)	021199	LOOP DETECTOR REPLACEMENT	EA	200

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

Annexed to Contract No. 08-499404

SECTION 1. SPECIFICATIONS AND PLANS

The work embraced herein shall conform to the provisions in the Standard Specifications dated July 1999, and the Standard Plans dated July 1999, of the Department of Transportation insofar as the same may apply, and these special provisions.

Amendments to the Standard Specifications set forth in these special provisions shall be considered as part of the Standard Specifications for the purposes set forth in Section 5-1.04, "Coordination and Interpretation of Plans, Standard Specifications and Special Provisions," of the Standard Specifications. Whenever either the term "Standard Specifications is amended" or the term "Standard Specifications are amended" is used in the special provisions, the indented text or table following the term shall be considered an amendment to the Standard Specifications. In case of conflict between such amendments and the Standard Specifications, the amendments shall take precedence over and be used in lieu of the conflicting portions.

In case of conflict between the Standard Specifications and these special provisions, the special provisions shall take precedence over and shall be used in lieu of the conflicting portions.

SECTION 2. PROPOSAL REQUIREMENTS AND CONDITIONS

2-1.01 GENERAL

The bidder's attention is directed to the provisions in Section 2, "Proposal Requirements and Conditions," of the Standard Specifications and these special provisions for the requirements and conditions which the bidder must observe in the preparation of the proposal form and the submission of the bid.

In addition to the subcontractors required to be listed in conformance with Section 2-1.054, "Required Listing of Proposed Subcontractors," of the Standard Specifications, each proposal shall have listed therein the name and address of each DVBE subcontractor to be used for credit in meeting the goal, and to whom the bidder proposes to directly subcontract portions of the work. The list of subcontractors shall also set forth the portion of work that will be performed by each subcontractor listed. A sheet for listing the subcontractors is included in the Proposal.

The Bidder's Bond form mentioned in the last paragraph in Section 2-1.07, "Proposal Guaranty," of the Standard Specifications will be found following the signature page of the Proposal.

In conformance with Public Contract Code Section 7106, a Noncollusion Affidavit is included in the Proposal. Signing the Proposal shall also constitute signature of the Noncollusion Affidavit.

Submit request for substitution of an "or equal" item, and the data substantiating the request to the Department of Transportation, District 8 Construction, MS 1104, 464 West 4th Street, 6th Floor, San Bernardino, Ca 92401-1400, so that the request is received by the Department by close of business on the fourth day, not including Saturdays, Sundays and legal holidays, following bid opening.

2-1.02 DISABLED VETERAN BUSINESS ENTERPRISE (DVBE)

Section 10115 of the Public Contract Code requires the Department to implement provisions to establish a goal for Disabled Veterans Business Enterprise (DVBE) in contracts.

It is the policy of the Department that Disabled Veteran Business Enterprise (DVBE) shall have the maximum opportunity to participate in the performance of contracts financed solely with state funds. The Contractor shall ensure that DVBEs have the maximum opportunity to participate in the performance of this contract and shall take all necessary and reasonable steps for this assurance. The Contractor shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of subcontracts. Failure to carry out the requirements of this paragraph shall constitute a breach of contract and may result in termination of this contract or other remedy the Department may deem appropriate.

Bidder's attention is directed to the following:

- A. "Disabled Veteran Business Enterprise" (DVBE) means a business concern certified as a DVBE by the Office of Small Business Certification and Resources, Department of General Services.
- B. A DVBE may participate as a prime contractor, subcontractor, joint venture partner with a prime or subcontractor, or vendor of material or supplies.
- C. Credit for DVBE prime contractors will be 100 percent.
- D. A DVBE joint venture partner must be responsible for specific contract items of work, or portions thereof. Responsibility means actually performing, managing and supervising the work with its own forces. The DVBE joint venture partner must share in the ownership, control, management responsibilities, risks and profits of the joint venture. The DVBE joint venturer must submit the joint venture agreement with the Caltrans Bidder DVBE Information form required in Section 2-1.04, "Submission of DVBE Information," elsewhere in these special provisions.
- E. A DVBE must perform a commercially useful function, i.e., must be responsible for the execution of a distinct element of the work and must carry out its responsibility by actually performing, managing and supervising the work.
- F. Credit for DVBE vendors of materials or supplies is limited to 60 percent of the amount to be paid to the vendor for the material unless the vendor manufactures or substantially alters the goods.
- G. Credit for trucking by DVBEs will be as follows:
 - 1. One hundred percent of the amount to be paid when a DVBE trucker will perform the trucking with his/her own trucks, tractors and employees.
 - 2. Twenty percent of the amount to be paid to DVBE trucking brokers who do not have a "certified roster."
 - 3. One hundred percent of the amount to be paid to DVBE trucking brokers who have signed agreements that all trucking will be performed by DVBE truckers if credit is toward the DVBE goal, a "certified roster" showing that all trucks are owned by DVBEs, and a signed statement on the "certified roster" that indicates that 100 percent of revenue paid by the broker will be paid to the DVBEs listed on the "certified roster."
 - 4. Twenty percent of the amount to be paid to trucking brokers who are not a DVBE but who have signed agreements with DVBE truckers assuring that at least 20 percent of the trucking will be performed by DVBE truckers if credit is toward the DVBE goal, a "certified roster" showing that at least 20 percent of the number of trucks are owned by DVBE truckers, and a signed statement on the "certified roster" that indicates that at least 20 percent of the revenue paid by the broker will be paid to the DVBEs listed on the "certified roster."

The "certified roster" referred to herein shall conform to the requirements in Section 2-1.04, "Submission Of DVBE Information," elsewhere in these special provisions.

- H. DVBEs and DVBE joint venture partners must be certified DVBEs as determined by the Department of General Services, Office of Small Business Certification and Resources, 1531 "I" Street, Second Floor, Sacramento, CA 95814, on the date bids for the project are opened before credit may be allowed toward the DVBE goal. It is the Contractor's responsibility to verify that DVBEs are certified.
- I. Noncompliance by the Contractor with these requirements constitutes a breach of this contract and may result in termination of the contract or other appropriate remedy for a breach of this contract.

2-1.03 DVBE GOAL FOR THIS PROJECT

The Department has established the following goal for Disabled Veteran Business Enterprise (DVBE) participation for this project:

Disabled Veteran Business Enterprise (DVBE): 3 percent.

It is the bidder's responsibility to make a sufficient portion of the work available to subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DVBE subcontractors and suppliers, so as to assure meeting the goal for DVBE participation.

The Office of Small Business Certification and Resources, Department of General Services, may be contacted at (916) 322-5060 or visit their internet web site at <http://www.osmb.dgs.ca.gov/> for program information and certification status. The Department's Business Enterprise Program may also be contacted at (916) 227-9599 or the internet web site at <http://www.dot.ca.gov/hq/bep/>.

2-1.04 SUBMISSION OF DVBE INFORMATION

The required DVBE information shall be submitted on the "CALTRANS BIDDER - DVBE INFORMATION" form included in the Proposal. If this information is not submitted with the bid, the DVBE information forms shall be removed from the documents prior to submitting the bid.

It is the bidder's responsibility to make enough work available to DVBEs and to select those portions of the work or material needs consistent with the available DVBEs to meet the goal for DVBE participation or to provide information to establish that, prior to bidding, the bidder made adequate good faith efforts to do so.

If the DVBE information is not submitted with the bid, the apparent successful bidder (low bidder), the second low bidder and the third low bidder shall submit the DVBE information to the Department of Transportation, 1120 N Street, Room 0200, MS #26, Sacramento, California 95814 so the information is received by the Department no later than 4:00 p.m. on the fourth day, not including Saturdays, Sundays and legal holidays, following bid opening. DVBE information sent by U.S. Postal Service certified mail with return receipt and certificate of mailing and mailed on or before the third day, not including Saturdays, Sundays and legal holidays, following bid opening will be accepted even if it is received after the fourth day following bid opening. Failure to submit the required DVBE information by the time specified will be grounds for finding the bid or proposal nonresponsive. Other bidders need not submit DVBE information unless requested to do so by the Department.

The bidder's DVBE information shall establish that good faith efforts to meet the DVBE goal have been made. To establish good faith efforts, the bidder shall demonstrate that the goal will be met or that, prior to bidding, adequate good faith efforts to meet the goal were made.

Bidders are cautioned that even though their submittal indicates they will meet the stated DVBE goal, their submittal should also include their adequate good faith efforts information along with their DVBE goal information to protect their eligibility for award of the contract in the event the Department, in its review, finds that the goal has not been met.

The bidder's DVBE information shall include the names of DVBE firms that will participate, with a complete description of work or supplies to be provided by each, the dollar value of each DVBE transaction, and a written confirmation from the DVBE that it is participating in the contract. A copy of the DVBE's quote will serve as written confirmation that the DVBE is participating in the contract. When 100 percent of a contract item of work is not to be performed or furnished by a DVBE, a description of the exact portion of that work to be performed or furnished by that DVBE shall be included in the DVBE information, including the planned location of that work. The work that a DVBE prime contractor has committed to performing with its own forces as well as the work that it has committed to be performed by DVBE subcontractors, suppliers and trucking companies will count toward the goal.

If credit for trucking by a DVBE trucking broker is shown on the bidder's information as 100 percent of the revenue to be paid by the broker is to be paid to DVBE truckers, a "certified roster" of the broker's trucks to be used must be included. The "certified roster" must indicate that all the trucks are owned by certified DVBEs and must show the DVBE truck numbers, owner's name, Public Utilities Commission Cal-T numbers, and the DVBE certification numbers. The roster must indicate that all revenue paid by the broker will be paid to DVBEs listed on the "certified roster".

If credit for trucking by a trucking broker who is not a DVBE is shown in the bidder's information, a "certified roster" of the broker's trucks to be used must be included. The "certified roster" must indicate that at least 20 percent of the broker's trucks are owned by certified DVBEs and must show the DVBE truck numbers, owner's name, Public Utilities Commission Cal-T numbers, and the DVBE certification number. The roster must indicate that at least 20 percent of the revenue paid by the broker will be paid to DVBEs listed on the "certified roster".

A bidder shall be deemed to have made good faith efforts upon submittal, within time limits specified by the Department, of documentary evidence that all of the following actions were taken:

- A. Contact was made with the Office of Small Business Certification and Resources (OSBCR), Department of General Services or their web site at <http://www.osmb.dgs.ca.gov/> to identify Disabled Veteran Business Enterprises.
- B. Advertising was published in trade media and media focusing on Disabled Veteran Business Enterprises, unless time limits imposed by the Department do not permit that advertising.
- C. Invitations to bid were submitted to potential Disabled Veteran Business Enterprise contractors.
- D. Available Disabled Veteran Business Enterprises were considered.

2-1.05 SMALL BUSINESS PREFERENCE

Attention is directed to "Award and Execution of Contract" of these special provisions.

Attention is also directed to the Small Business Procurement and Contract Act, Government Code Section 14835, et seq and Title 2, California Code of Regulations, Section 1896, et seq.

Bidders who wish to be classified as a Small Business under the provisions of those laws and regulations, shall be certified as Small Business by the Department of General Services, Office of Small Business Certification and Resources, 1531 "I" Street, Second Floor, Sacramento, CA 95814.

To request Small Business Preference, bidders shall fill out and sign the Request for Small Business Preference form in the Proposal and shall attach a copy of their Office of Small Business Certification and Resources (OSBCR) small business certification letter to the form. The bidder's signature on the Request for Small Business Preference certifies, under penalty of perjury, that the bidder is certified as Small Business at the time of bid opening and further certifies, under penalty of perjury, that under the following conditions, at least 50 percent of the subcontractors to be utilized on the project are either

certified Small Business or have applied for Small Business certification by bid opening date and are subsequently granted Small Business certification.

The conditions requiring the aforementioned 50 percent level of subcontracting by Small Business subcontractors apply if:

- A. The lowest responsible bid for the project exceeds \$100,000; and
- B. The project work to be performed requires a Class A or a Class B contractor's license; and
- C. Two or more subcontractors will be used.

If the above conditions apply and Small Business Preference is granted in the award of the contract, the 50 percent Small Business subcontractor utilization level shall be maintained throughout the life of the contract.

2-1.06 CALIFORNIA COMPANY PREFERENCE

Attention is directed to "Award and Execution of Contract" of these special provisions.

In conformance with the requirements of Section 6107 of the Public Contract Code, a "California company" will be granted a reciprocal preference for bid comparison purposes as against a nonresident contractor from any state that gives or requires a preference to be given contractors from that state on its public entity construction contracts.

A "California company" means a sole proprietorship, partnership, joint venture, corporation, or other business entity that was a licensed California contractor on the date when bids for the public contract were opened and meets one of the following:

- A. Has its principal place of business in California.
- B. Has its principal place of business in a state in which there is no local contractor preference on construction contracts.
- C. Has its principal place of business in a state in which there is a local contractor construction preference and the contractor has paid not less than \$5000 in sales or use taxes to California for construction related activity for each of the five years immediately preceding the submission of the bid.

To carry out the "California company" reciprocal preference requirements of Section 6107 of the Public Contract Code, all bidders shall fill out and sign the California Company Preference form in the Proposal. The bidder's signature on the California Company Preference form certifies, under penalty of perjury, that the bidder is or is not a "California company" and if not, the amount of the preference applied by the state of the nonresident Contractor.

A nonresident Contractor shall disclose any and all bid preferences provided to the nonresident Contractor by the state or country in which the nonresident Contractor has its principal place of business.

Proposals without the California Company Preference form filled out and signed may be rejected.

SECTION 3. AWARD AND EXECUTION OF CONTRACT

The bidder's attention is directed to the provisions in Section 3, "Award and Execution of Contract," of the Standard Specifications and these special provisions for the requirements and conditions concerning award and execution of contract.

The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed and who has met the goal for DVBE participation or has demonstrated, to the satisfaction of the Department, adequate good faith efforts to do so. Meeting the goal for DVBE participation or demonstrating, to the satisfaction of the Department, adequate good faith efforts to do so is a condition for being eligible for award of contract.

A "Payee Data Record" form will be included in the contract documents to be executed by the successful bidder. The purpose of the form is to facilitate the collection of taxpayer identification data. The form shall be completed and returned to the Department by the successful bidder with the executed contract and contract bonds. For the purposes of the form, payee shall be deemed to mean the successful bidder. The form is not to be completed for subcontractors or suppliers. Failure to complete and return the "Payee Data Record" form to the Department as provided herein will result in the retention of 20 percent of payments due the contractor and penalties of up to \$20,000. This retention of payments for failure to complete the "Payee Data Record" form is in addition to any other retention of payments due the Contractor.

Attention is also directed to "Small Business Preference" of these special provisions. Any bidder who is certified as a Small Business by the Department of General Services, Office of Small Business Certification and Resources will be allowed a preference in the award of this contract, if it be awarded, under the following conditions:

- A. The apparent low bidder is not certified as a Small Business, or has not filled out and signed the Request for Small Business Preference included with the bid documents and attached a copy of their Office of Small Business Certification and Resources (OSBCR) small business certification letter to the form; and

- B. The bidder filled out and signed the Request for Small Business Preference form included with the bid documents and attached a copy of their Office of Small Business Certification and Resources (OSBCR) small business certification letter to the form.

The small business preference will be a reduction in the bid submitted by the small business contractor, for bid comparison purposes, by an amount equal to 5 percent of the amount bid by the apparent low bidder, the amount not to exceed \$50,000. If this reduction results in the small business contractor becoming the low bidder, then the contract will be awarded to the small business contractor on the basis of the actual bid of the small business contractor notwithstanding the reduced bid price used for bid comparison purposes.

Attention is also directed to "California Company Preference" of these special provisions.

The amount of the California company reciprocal preference shall be equal to the amount of the preference applied by the state of the nonresident contractor with the lowest responsive bid, except where the "California company" is eligible for a California Small Business Preference, in which case the preference applied shall be the greater of the two, but not both.

If the bidder submitting the lowest responsive bid is not a "California company" and with the benefit of the reciprocal preference, a "California company's" responsive bid is equal to or less than the original lowest responsive bid, the "California company" will be awarded the contract at its submitted bid price except as provided below.

Small business bidders shall have precedence over nonsmall business bidders in that the application of the "California company" preference for which nonsmall business bidders may be eligible shall not result in the denial of the award to a small business bidder.

SECTION 4. BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES

Attention is directed to the provisions in Section 8-1.03, "Beginning of Work," in Section 8-1.06, "Time of Completion," and in Section 8-1.07, "Liquidated Damages," of the Standard Specifications and these special provisions.

After the contract has been approved by the Attorney General or the attorney appointed and authorized to represent the Department of Transportation, the Contractor shall begin work within 25 calendar days after approval of the contract, or within 5 calendar days after the State of California 2001/2002 Fiscal Year Budget Act becomes law, or on July 1, 2001, whichever occurs later.

No work shall be performed on this project before July 1, 2001, unless budget capacity becomes available in the 2000/2001 Fiscal Year Budget and the Engineer and Contractor have mutually agreed on a start date following contract approval.

If the 2001/2002 Fiscal Year Budget Act does not become law by August 1, 2001, and no work on the contract has been performed, the Contractor may elect to terminate the contract at no cost to the State. This election to terminate will not prejudice the Contractor's performance and payment securities or its rights to participate in future bidding for the project. If the Contractor elects to terminate the contract as provided, notification of the termination shall be submitted by U.S. Postal Service certified mail, with return receipt and certificate of mailing, to the Department of Transportation, Division of Office Engineer, (MS 43), 1727 30th Street, Sacramento, CA 95816, and postmarked before the effective date the 2001/2002 Fiscal Year Budget Act becomes law.

This work shall be diligently prosecuted to completion before the expiration of **45 WORKING DAYS** beginning on the day the Contractor begins work as mutually agreed between the Engineer and the Contractor, or, the later of "A", "B" or "C" as follows:

- A. July 1, 2001 if the 2001/2002 Fiscal Year Budget Act becomes law before July 1, 2001, and the contract has been approved by the Attorney General or the attorney appointed and authorized to represent the Department of Transportation; or
- B. the fifth calendar day after the 2001/2002 Fiscal Year Budget Act becomes law on or after July 1, 2001, and the contract has been approved by the Attorney General or the attorney appointed and authorized to represent the Department of Transportation; or
- C. beginning on the fifteenth calendar day after the contract has been approved by the Attorney General or the attorney appointed and authorized to represent the Department of Transportation.

The Contractor shall pay to the State of California the sum of \$750 per day, for each and every calendar day's delay in finishing the work in excess of the number of working days prescribed above.

Work performed in conformance with the contract after July 1, 2001, will be considered authorized work and will be paid for as provided in the contract when the 2001/2002 Fiscal Year Budget Act becomes law and the contract is approved.

The Department will notify the Contractor when the 2001/2002 Fiscal Year Budget Act becomes law.

SECTION 5. GENERAL

SECTION 5-1. MISCELLANEOUS

5-1.01 PLANS AND WORKING DRAWINGS

When the specifications require working drawings to be submitted to the Division of Structure Design, the drawings shall be submitted to: Division of Structure Design, Documents Unit, Mail Station 9, 1801 30th Street, Sacramento, CA 95816, Telephone 916 227-8252.

5-1.011 EXAMINATION OF PLANS, SPECIFICATIONS, CONTRACT, AND SITE OF WORK

The second paragraph of Section 2-1.03, "Examination of Plans, Specifications, Contract, and Site of Work," of the Standard Specifications is amended to read:

- Where the Department has made investigations of site conditions, including subsurface conditions in areas where work is to be performed under the contract, or in other areas, some of which may constitute possible local material sources, bidders or Contractors may, upon written request, inspect the records of the Department as to those investigations subject to and upon the conditions hereinafter set forth.

Attention is directed to "Differing Site Conditions" of these special provisions regarding physical conditions at the site which may differ from those indicated in "Materials Information," log of test borings or other geotechnical information obtained by the Department's investigation of site conditions.

5-1.012 DIFFERING SITE CONDITIONS

Attention is directed to Section 5-1.116, "Differing Site Conditions," of the Standard Specifications.

During the progress of the work, if subsurface or latent conditions are encountered at the site differing materially from those indicated in the "Materials Information," log of test borings, other geotechnical data obtained by the Department's investigation of subsurface conditions, or an examination of the conditions above ground at the site, the party discovering those conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

The Contractor will be allowed 15 days from the notification of the Engineer's determination of whether or not an adjustment of the contract is warranted, in which to file a notice of potential claim in conformance with the provisions of Section 9-1.04, "Notice of Potential Claim," of the Standard Specifications and as specified herein; otherwise the decision of the Engineer shall be deemed to have been accepted by the Contractor as correct. The notice of potential claim shall set forth in what respects the Contractor's position differs from the Engineer's determination and provide any additional information obtained by the Contractor, including but not limited to additional geotechnical data. The notice of potential claim shall be accompanied by the Contractor's certification that the following were made in preparation of the bid: a review of the contract, a review of the "Materials Information," a review of the log of test borings and other records of geotechnical data to the extent they were made available to bidders prior to the opening of bids, and an examination of the conditions above ground at the site. Supplementary information, obtained by the Contractor subsequent to the filing of the notice of potential claim, shall be submitted to the Engineer in an expeditious manner.

5-1.015 LABORATORY

When a reference is made in the specifications to the "Laboratory," the reference shall mean the Division of Materials Engineering and Testing Services and the Division of Structural Foundations of the Department of Transportation, or established laboratories of the various Districts of the Department, or other laboratories authorized by the Department to test materials and work involved in the contract. When a reference is made in the specifications to the "Transportation Laboratory," the reference shall mean the Division of Materials Engineering and Testing Services and the Division of Structural Foundations, located at 5900 Folsom Boulevard, Sacramento, CA 95819, Telephone (916) 227-7000.

5-1.017 CONTRACT BONDS

Attention is directed to Section 3-1.02, "Contract Bonds," of the Standard Specifications and these special provisions.

The payment bond shall be in a sum not less than one hundred percent of the total amount payable by the terms of the contract.

5-1.018 EXCAVATION SAFETY PLANS

Section 5-1.02A, "Trench Excavation Safety Plans," of the Standard Specifications is amended to read:

5-1.02A Excavation Safety Plans

- The Construction Safety Orders of the Division of Occupational Safety and Health shall apply to all excavations. For all excavations 1.5 m or more in depth, the Contractor shall submit to the Engineer a detailed plan showing the design and details of the protective systems to be provided for worker protection from the hazard of caving ground during excavation. The detailed plan shall include any tabulated data and any design calculations used in the preparation of the plan. Excavation shall not begin until the detailed plan has been reviewed and approved by the Engineer.
- Detailed plans of protective systems for which the Construction Safety Orders require design by a registered professional engineer shall be prepared and signed by an engineer who is registered as a Civil Engineer in the State of California, and shall include the soil classification, soil properties, soil design calculations that demonstrate adequate stability of the protective system, and any other design calculations used in the preparation of the plan.
- No plan shall allow the use of a protective system less effective than that required by the Construction Safety Orders.
- If the detailed plan includes designs of protective systems developed only from the allowable configurations and slopes, or Appendices, contained in the Construction Safety Orders, the plan shall be submitted at least 5 days before the Contractor intends to begin excavation. If the detailed plan includes designs of protective systems developed from tabulated data, or designs for which design by a registered professional engineer is required, the plan shall be submitted at least 3 weeks before the Contractor intends to begin excavation.
- Attention is directed to Section 7-1.01E, "Trench Safety."

The third paragraph of Section 19-1.02, "Preservation of Property," of the Standard Specifications is amended to read:

- In addition to the provisions in Sections 5-1.02, "Plans and Working Drawings," and 5-1.02A, "Excavation Safety Plans," detailed plans of the protective systems for excavations on or affecting railroad property will be reviewed for adequacy of protection provided for railroad facilities, property, and traffic. These plans shall be submitted at least 9 weeks before the Contractor intends to begin excavation requiring the protective systems. Approval by the Engineer of the detailed plans for the protective systems will be contingent upon the plans being satisfactory to the railroad company involved.

5-1.019 COST REDUCTION INCENTIVE

Attention is directed to Section 5-1.14, "Cost Reduction Incentive," of the Standard Specifications.

Prior to preparing a cost reduction proposal, the Contractor shall request a meeting with the Engineer to discuss the proposal in concept and to determine the merit of the cost reduction proposal. Items of discussion will also include permit issues, impact on other projects, impact on the project schedule, peer reviews, and review times required by the Department and other agencies.

5-1.02 LABOR NONDISCRIMINATION

Attention is directed to the following Notice that is required by Chapter 5 of Division 4 of Title 2, California Code of Regulations.

NOTICE OF REQUIREMENT FOR NONDISCRIMINATION PROGRAM

(GOV. CODE, SECTION 12990)

Your attention is called to the "Nondiscrimination Clause", set forth in Section 7-1.01A(4), "Labor Nondiscrimination," of the Standard Specifications, which is applicable to all nonexempt State contracts and subcontracts, and to the "Standard California Nondiscrimination Construction Contract Specifications" set forth therein. The specifications are applicable to all nonexempt State construction contracts and subcontracts of \$5000 or more.

5-1.03 INTEREST ON PAYMENTS

Interest shall be payable on progress payments, payments after acceptance, final payments, extra work payments, and claim payments as follows:

- A. Unpaid progress payments, payment after acceptance, and final payments shall begin to accrue interest 30 days after the Engineer prepares the payment estimate.

- B. Unpaid extra work bills shall begin to accrue interest 30 days after preparation of the first pay estimate following receipt of a properly submitted and undisputed extra work bill. To be properly submitted, the bill must be submitted within 7 days of the performance of the extra work and in conformance with the provisions in Section 9-1.03C, "Records," and Section 9-1.06, "Partial Payments," of the Standard Specifications. An undisputed extra work bill not submitted within 7 days of performance of the extra work will begin to accrue interest 30 days after the preparation of the second pay estimate following submittal of the bill.
- C. The rate of interest payable for unpaid progress payments, payments after acceptance, final payments, and extra work payments shall be 10 percent per annum.
- D. The rate of interest payable on a claim, protest or dispute ultimately allowed under this contract shall be 6 percent per annum. Interest shall begin to accrue 61 days after the Contractor submits to the Engineer information in sufficient detail to enable the Engineer to ascertain the basis and amount of said claim, protest or dispute.

The rate of interest payable on any award in arbitration shall be 6 percent per annum if allowed under the provisions of Civil Code Section 3289.

5-1.031 FINAL PAYMENT AND CLAIMS

Attention is directed to Section 9-1.07B, "Final Payment and Claims," of the Standard Specifications.

The District that administers the contract shall submit a claim position letter to the Contractor within 135 days after acceptance of the contract. After receipt of the claim position letter from the District, or 135 days after acceptance of the contract, whichever occurs first, the Contractor may request a meeting with the person or board designated by the District Director to review claims that remain in dispute. If the Contractor requests a meeting, the review person or board shall meet with the Contractor within 45 days after the request is received.

5-1.04 PUBLIC SAFETY

The Contractor shall provide for the safety of traffic and the public in conformance with the provisions in Section 7-1.09, "Public Safety," of the Standard Specifications and these special provisions.

The Contractor shall install temporary railing (Type K) between a lane open to public traffic and an excavation, obstacle or storage area when the following conditions exist:

- A. Excavations.—The near edge of the excavation is 3.6 m or less from the edge of the lane, except:
 - 1. Excavations covered with sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public.
 - 2. Excavations less than 0.3-m deep.
 - 3. Trenches less than 0.3-m wide for irrigation pipe or electrical conduit, or excavations less than 0.3-m in diameter.
 - 4. Excavations parallel to the lane for the purpose of pavement widening or reconstruction.
 - 5. Excavations in side slopes, where the slope is steeper than 1:4 (vertical:horizontal).
 - 6. Excavations protected by existing barrier or railing.
- B. Temporarily Unprotected Permanent Obstacles.—The work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and the Contractor elects to install the obstacle prior to installing the protective system; or the Contractor, for the Contractor's convenience and with permission of the Engineer, removes a portion of an existing protective railing at an obstacle and does not replace such railing complete in place during the same day.
- C. Storage Areas.—Material or equipment is stored within 3.6 m of the lane and the storage is not otherwise prohibited by the provisions of the Standard Specifications and these special provisions.

The approach end of temporary railing (Type K), installed in conformance with the provisions in this section "Public Safety" and in Section 7-1.09, "Public Safety," of the Standard Specifications, shall be offset a minimum of 4.6 m from the edge of the traffic lane open to public traffic. The temporary railing shall be installed on a skew toward the edge of the traffic lane of not more than 0.3-m transversely to 3 m longitudinally with respect to the edge of the traffic lane. If the 4.6-m minimum offset cannot be achieved, the temporary railing shall be installed on the 10 to 1 skew to obtain the maximum available offset between the approach end of the railing and the edge of the traffic lane, and an array of temporary crash cushion modules shall be installed at the approach end of the temporary railing.

Temporary railing (Type K) shall conform to the provisions in Section 12-3.08, "Temporary Railing (Type K)," of the Standard Specifications. Temporary railing (Type K), conforming to the details shown on 1999 Standard Plan T3, may be used. Temporary railing (Type K) fabricated prior to January 1, 1993, and conforming to 1988 Standard Plan B11-30 may be used, provided the fabrication date is printed on the required Certificate of Compliance.

Temporary crash cushion modules shall conform to the provisions in "Temporary Crash Cushion Module" of these special provisions.

Except for installing, maintaining and removing traffic control devices, whenever work is performed or equipment is operated in the following work areas, the Contractor shall close the adjacent traffic lane unless otherwise provided in the Standard Specifications and these special provisions:

Approach Speed of Public Traffic (Posted Limit) (Kilometers Per Hour)	Work Areas
Over 72 (45 Miles Per Hour)	Within 1.8 m of a traffic lane but not on a traffic lane
56 to 72 (35 to 45 Miles Per Hour)	Within 0.9-m of a traffic lane but not on a traffic lane

The lane closure provisions of this section shall not apply if the work area is protected by permanent or temporary railing or barrier.

When traffic cones or delineators are used to delineate a temporary edge of a traffic lane, the line of cones or delineators shall be considered to be the edge of the traffic lane, however, the Contractor shall not reduce the width of an existing lane to less than 3 m without written approval from the Engineer.

When work is not in progress on a trench or other excavation that required closure of an adjacent lane, the traffic cones or portable delineators used for the lane closure shall be placed off of and adjacent to the edge of the traveled way. The spacing of the cones or delineators shall be not more than the spacing used for the lane closure.

Suspended loads or equipment shall not be moved nor positioned over public traffic or pedestrians.

Full compensation for conforming to the provisions in this section "Public Safety," including furnishing and installing temporary railing (Type K) and temporary crash cushion modules, shall be considered as included in the contract prices paid for the various items of work involved and no additional compensation will be allowed therefor.

5-1.05 SURFACE MINING AND RECLAMATION ACT

Attention is directed to the Surface Mining and Reclamation Act of 1975, commencing in Public Resources Code, Mining and Geology, Section 2710, which establishes regulations pertinent to surface mining operations, and to California Public Contract Code Section 10295.5.

Material from mining operations furnished for this project shall only come from permitted sites in compliance with California Public Contract Code Section 10295.5.

The requirements of this section shall apply to materials furnished for the project, except for acquisition of materials in conformance with the provisions in Section 4-1.05, "Use of Materials Found on the Work," of the Standard Specifications.

5-1.06 REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES

When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and the Contractor encounters materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe. The Contractor shall immediately cease work in the affected area and report the condition to the Engineer in writing.

In conformance with Section 25914.1 of the Health and Safety Code, removal of asbestos or hazardous substances including exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract.

If delay of work in the area delays the current controlling operation, the delay will be considered a right of way delay and the Contractor will be compensated for the delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

5-1.07 YEAR 2000 COMPLIANCE

This contract is subject to Year 2000 Compliance for automated devices in the State of California.

Year 2000 compliance for automated devices in the State of California is achieved when embedded functions have or create no logical or mathematical inconsistencies when dealing with dates prior to and beyond 1999. The year 2000 is recognized and processed as a leap year. The product shall operate accurately in the manner in which the product was intended for date operation without requiring manual intervention.

The Contractor shall provide the Engineer a Certificate of Compliance from the manufacturer in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications for all automated devices furnished for the project.

5-1.08 SUBCONTRACTOR AND DVBE RECORDS

The Contractor shall maintain records of all subcontracts entered into with certified DVBE subcontractors and records of materials purchased from certified DVBE suppliers. The records shall show the name and business address of each DVBE subcontractor or vendor and the total dollar amount actually paid each DVBE subcontractor or vendor.

Upon completion of the contract, a summary of these records shall be prepared on Form CEM-2402 (S) and certified correct by the Contractor or the Contractor's authorized representative, and shall be furnished to the Engineer.

5-1.086 PERFORMANCE OF DVBE SUBCONTRACTORS AND SUPPLIERS

The DVBEs listed by the Contractor in response to the provisions in Section 2-1.04, "Submission of DVBE Information," and Section 3, "Award and Execution of Contract," of these special provisions, which are determined by the Department to be certified DVBEs, shall perform the work and supply the materials for which they are listed, unless the Contractor has received prior written authorization to perform the work with other forces or to obtain the materials from other sources.

Authorization to utilize other forces or sources of materials may be requested for the following reasons:

- A. The listed DVBE, after having had a reasonable opportunity to do so, fails or refuses to execute a written contract, when the written contract, based upon the general terms, conditions, plans and specifications for the project, or on the terms of the subcontractor's or supplier's written bid, is presented by the Contractor.
- B. The listed DVBE becomes bankrupt or insolvent.
- C. The listed DVBE fails or refuses to perform the subcontract or furnish the listed materials.
- D. The Contractor stipulated that a bond was a condition of executing a subcontract and the listed DVBE subcontractor fails or refuses to meet the bond requirements of the Contractor.
- E. The work performed by the listed subcontractor is substantially unsatisfactory and is not in substantial conformance with the plans and specifications or the subcontractor is substantially delaying or disrupting the progress of the work.
- F. The listed DVBE subcontractor is not licensed pursuant to the Contractor's License Law.
- G. It would be in the best interest of the State.

The Contractor shall not be entitled to payment for the work or material unless it is performed or supplied by the listed DVBE or by other forces (including those of the Contractor) pursuant to prior written authorization of the Engineer.

5-1.09 SUBCONTRACTING

Attention is directed to the provisions in Section 8-1.01, "Subcontracting," of the Standard Specifications, Section 2, "Proposal Requirements and Conditions," Section 2-1.04, "Submission of DVBE Information," and Section 3, "Award and Execution of Contract," of these special provisions and these special provisions.

Pursuant to the provisions in Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. This list of debarred contractors is available from the Department of Industrial Relations web site at:

<http://www.dir.ca.gov/DLSE/Debar.html>.

The DVBE information furnished under Section 3-1.01A, "DVBE Information," of these special provisions is in addition to the subcontractor information required to be furnished in Section 8-1.01, "Subcontracting," and Section 2-1.054, "Required Listing of Proposed Subcontractors," of the Standard Specifications.

Section 10115 of the Public Contract Code requires the Department to implement provisions to establish a goal for Disabled Veteran Business Enterprise (DVBE) participation in highway contracts that are State funded. As a part of this requirement:

- A. No substitution of a DVBE subcontractor shall be made at any time without the written consent of the Department, and
- B. If a DVBE subcontractor is unable to perform successfully and is to be replaced, the Contractor shall make good faith efforts to replace the original DVBE subcontractor with another DVBE subcontractor.

The provisions in Section 2-1.02, "Disabled Veteran Business Enterprise (DVBE)," of these special provisions that DVBEs shall be certified on the date bids are opened does not apply to DVBE substitutions after award of the contract.

5-1.10 PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS

Attention is directed to the provisions in Sections 10262 and 10262.5 of the Public Contract Code and Section 7108.5 of the Business and Professions Code concerning prompt payment to subcontractors.

5-1.11 PARTNERING

The State will promote the formation of a "Partnering" relationship with the Contractor in order to effectively complete the contract to the benefit of both parties. The purpose of this relationship is to maintain a cooperative communication and to mutually resolve conflicts at the lowest responsible management level.

The Contractor may request the formation of a "Partnering" relationship by submitting a request in writing to the Engineer after approval of the contract. If the Contractor's request for "Partnering" is approved by the Engineer, scheduling of a "Partnering Workshop," selecting the "Partnering" facilitator and workshop site, and other administrative details shall be as agreed to by both parties. If agreed to by the parties, additional "Partnering Workshops" will be conducted as needed throughout the life of the contract.

The costs involved in providing the "Partnering Workshop" facilitator and workshop site will be borne equally by the State and the Contractor. The division of cost will be made by determining the cost in providing the "Partnering Workshop" facilitator and workshop site in conformance with the provisions in Section 9-1.03B, "Work Performed by Special Forces or Other Special Services," of the Standard Specifications, and paying to the Contractor one-half of that cost, except no markups will be allowed.

All other costs associated with "Partnering Workshops" will be borne separately by the party incurring the costs, such as wages and travel expenses, and no additional compensation will be allowed therefor.

The establishment of a "Partnering" relationship will not change or modify the terms and conditions of the contract and will not relieve either party of the legal requirements of the contract.

5-1.12 AREAS FOR CONTRACTOR'S USE

Attention is directed to the provisions in Section 7-1.19, "Rights in Land and Improvements," of the Standard Specifications and these special provisions.

The highway right of way shall be used only for purposes that are necessary to perform the required work. The Contractor shall not occupy the right of way, or allow others to occupy the right of way, for purposes which are not necessary to perform the required work.

No State-owned parcels adjacent to the right of way are available for the exclusive use of the Contractor within the contract limits. The Contractor shall secure, at the Contractor's own expense, areas required for plant sites, storage of equipment or materials, or for other purposes.

No area is available within the contract limits for the exclusive use of the Contractor. However, temporary storage of equipment and materials on State property may be arranged with the Engineer, subject to the prior demands of State maintenance forces and to other contract requirements. Use of the Contractor's work areas and other State-owned property shall be at the Contractor's own risk, and the State shall not be held liable for damage to or loss of materials or equipment located within such areas.

5-1.13 PAYMENTS

Attention is directed to Sections 9-1.06, "Partial Payments," and 9-1.07, "Payment After Acceptance," of the Standard Specifications and these special provisions.

No partial payment will be made for any materials on hand which are furnished but not incorporated in the work.

5-1.14 SOUND CONTROL REQUIREMENTS

Sound control shall conform to the provisions in Section 7-1.01I, "Sound Control Requirements," of the Standard Specifications and these special provisions.

The noise level from the Contractor's operations, between the hours of 9:00 p.m. and 6:00 a.m., shall not exceed 86 dBA at a distance of 15 m. This requirement shall not relieve the Contractor from responsibility for complying with local ordinances regulating noise level.

The noise level requirement shall apply to the equipment on the job or related to the job, including but not limited to trucks, transit mixers or transient equipment that may or may not be owned by the Contractor. The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

SECTION 6. (BLANK)

SECTION 7. (BLANK)

SECTION 8. MATERIALS

SECTION 8-1. MISCELLANEOUS

8-1.01 SUBSTITUTION OF NON-METRIC MATERIALS AND PRODUCTS

Only materials and products conforming to the requirements of the specifications shall be incorporated in the work. When metric materials and products are not available, and when approved by the Engineer, and at no cost to the State, materials and products in the United States Standard Measures which are of equal quality and of the required properties and characteristics for the purpose intended, may be substituted for the equivalent metric materials and products, subject to the following provisions:

- A. Materials and products shown on the plans or in the special provisions as being equivalent may be substituted for the metric materials and products specified or detailed on the plans.
- B. Before other non-metric materials and products will be considered for use, the Contractor shall furnish, at the Contractor's expense, evidence satisfactory to the Engineer that the materials and products proposed for use are equal to or better than the materials and products specified or detailed on the plans. The burden of proof as to the quality and suitability of substitutions shall be upon the Contractor and the Contractor shall furnish necessary information as required by the Engineer. The Engineer will be the sole judge as to the quality and suitability of the substituted materials and products and the Engineer's decision will be final.
- C. When the Contractor elects to substitute non-metric materials and products, including materials and products shown on the plans or in the special provisions as being equivalent, the list of sources of material specified in Section 6-1.01, "Source of Supply and Quality of Materials," of the Standard Specification shall include a list of substitutions to be made and contract items involved. In addition, for a change in design or details, the Contractor shall submit plans and working drawings in conformance with the provisions in Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications. The plans and working drawings shall be submitted at least 7 days before the Contractor intends to begin the work involved.

Unless otherwise specified, the following substitutions of materials and products will be allowed:

SUBSTITUTION TABLE FOR SIZES OF HIGH STRENGTH STEEL FASTENERS

ASTM Designation: A 325M

METRIC SIZE SHOWN ON THE PLANS mm x thread pitch	SIZE TO BE SUBSTITUTED inch
M16 x 2	5/8
M20 x 2.5	3/4
M22 x 2.5	7/8
M24 x 3	1
M27 x 3	1-1/8
M30 x 3.5	1-1/4
M36 x 4	1-1/2

SUBSTITUTION TABLE FOR PLAIN WIRE REINFORCEMENT

ASTM Designation: A 82

METRIC SIZE SHOWN ON THE PLANS ² mm	SIZE TO BE SUBSTITUTED ² inch x 100
MW9	W1.4
MW10	W1.6
MW13	W2.0
MW15	W2.3
MW19	W2.9
MW20	W3.1
MW22	W3.5
MW25	W3.9, except W3.5 in piles only
MW26	W4.0
MW30	W4.7
MW32	W5.0
MW35	W5.4
MW40	W6.2
MW45	W6.5
MW50	W7.8
MW55	W8.5, except W8.0 in piles only
MW60	W9.3
MW70	W10.9, except W11.0 in piles only
MW80	W12.4
MW90	W14.0
MW100	W15.5

SUBSTITUTION TABLE FOR BAR REINFORCEMENT

METRIC BAR DESIGNATION NUMBER ¹ SHOWN ON THE PLANS	BAR DESIGNATION NUMBER ² TO BE SUBSTITUTED
13	4
16	5
19	6
22	7
25	8
29	9
32	10
36	11
43	14
57	18

¹Bar designation numbers approximate the number of millimeters of the nominal diameter of the bars.

²Bar numbers are based on the number of eighths of an inch included in the nominal diameter of the bars.

No adjustment will be required in spacing or total number of reinforcing bars due to a difference in minimum yield strength between metric and non-metric bars.

SUBSTITUTION TABLE FOR SIZES OF:

(1) STEEL FASTENERS FOR GENERAL APPLICATIONS (ASTM Designation: A 307 or AASHTO Designation: M 314, Grade 36 or 55), and

(2) HIGH STRENGTH STEEL FASTENERS (ASTM Designation: A 325 or A 449)

METRIC SIZE SHOWN ON THE PLANS mm	SIZE TO BE SUBSTITUTED inch
6 or 6.35	1/4
8 or 7.94	5/16
10 or 9.52	3/8
11 or 11.11	7/16
13 or 12.70	1/2
14 or 14.29	9/16
16 or 15.88	5/8
19 or 19.05	3/4
22 or 22.22	7/8
24, 25, or 25.40	1
29 or 28.58	1-1/8
32 or 31.75	1-1/4
35 or 34.93	1-3/8
38 or 38.10	1-1/2
44 or 44.45	1-3/4
51 or 50.80	2
57 or 57.15	2-1/4
64 or 63.50	2-1/2
70 or 69.85	2-3/4
76 or 76.20	3
83 or 82.55	3-1/4
89 or 88.90	3-1/2
95 or 95.25	3-3/4
102 or 101.60	4

SUBSTITUTION TABLE FOR NOMINAL THICKNESS OF SHEET METAL

UNCOATED HOT AND COLD ROLLED SHEETS		HOT-DIPPED ZINC COATED SHEETS (GALVANIZED)	
METRIC THICKNESS SHOWN ON THE PLANS mm	GAGE TO BE SUBSTITUTED inch	METRIC THICKNESS SHOWN ON THE PLANS mm	GAGE TO BE SUBSTITUTED inch
7.94	0.3125	4.270	0.1681
6.07	0.2391	3.891	0.1532
5.69	0.2242	3.510	0.1382
5.31	0.2092	3.132	0.1233
4.94	0.1943	2.753	0.1084
4.55	0.1793	2.372	0.0934
4.18	0.1644	1.994	0.0785
3.80	0.1495	1.803	0.0710
3.42	0.1345	1.613	0.0635
3.04	0.1196	1.461	0.0575
2.66	0.1046	1.311	0.0516
2.28	0.0897	1.158	0.0456
1.90	0.0747	1.006 or 1.016	0.0396
1.71	0.0673	0.930	0.0366
1.52	0.0598	0.853	0.0336
1.37	0.0538	0.777	0.0306
1.21	0.0478	0.701	0.0276
1.06	0.0418	0.627	0.0247
0.91	0.0359	0.551	0.0217
0.84	0.0329	0.513	0.0202
0.76	0.0299	0.475	0.0187
0.68	0.0269	-----	-----
0.61	0.0239	-----	-----
0.53	0.0209	-----	-----
0.45	0.0179	-----	-----
0.42	0.0164	-----	-----
0.38	0.0149	-----	-----

SUBSTITUTION TABLE FOR WIRE

METRIC THICKNESS SHOWN ON THE PLANS mm	WIRE THICKNESS TO BE SUBSTITUTED inch	GAGE NO.
6.20	0.244	3
5.72	0.225	4
5.26	0.207	5
4.88	0.192	6
4.50	0.177	7
4.11	0.162	8
3.76	0.148	9
3.43	0.135	10
3.05	0.120	11
2.69	0.106	12
2.34	0.092	13
2.03	0.080	14
1.83	0.072	15
1.57	0.062	16
1.37	0.054	17
1.22	0.048	18
1.04	0.041	19
0.89	0.035	20

SUBSTITUTION TABLE FOR PIPE PILES

METRIC SIZE SHOWN ON THE PLANS mm x mm	SIZE TO BE SUBSTITUTED inch x inch
PP 360 x 4.55	NPS 14 x 0.179
PP 360 x 6.35	NPS 14 x 0.250
PP 360 x 9.53	NPS 14 x 0.375
PP 360 x 11.12	NPS 14 x 0.438
PP 406 x 12.70	NPS 16 x 0.500
PP 460 x T	NPS 18 x T"
PP 508 x T	NPS 20 x T"
PP 559 x T	NPS 22 x T"
PP 610 x T	NPS 24 x T"
PP 660 x T	NPS 26 x T"
PP 711 x T	NPS 28 x T"
PP 762 x T	NPS 30 x T"
PP 813 x T	NPS 32 x T"
PP 864 x T	NPS 34 x T"
PP 914 x T	NPS 36 x T"
PP 965 x T	NPS 38 x T"
PP 1016 x T	NPS 40 x T"
PP 1067 x T	NPS 42 x T"
PP 1118 x T	NPS 44 x T"
PP 1219 x T	NPS 48 x T"
PP 1524 x T	NPS 60 x T"

The thickness in millimeters (T) represents an exact conversion of the thickness in inches (T").

SUBSTITUTION TABLE FOR STRUCTURAL TIMBER AND LUMBER

METRIC MINIMUM DRESSED DRY, SHOWN ON THE PLANS mm x mm	METRIC MINIMUM DRESSED GREEN, SHOWN ON THE PLANS mm x mm	NOMINAL SIZE TO BE SUBSTITUTED inch x inch
19x89	20x90	1x4
38x89	40x90	2x4
64x89	65x90	3x4
89x89	90x90	4x4
140x140	143x143	6x6
140x184	143x190	6x8
184x184	190x190	8x8
235x235	241x241	10x10
286x286	292x292	12x12

SUBSTITUTION TABLE FOR NAILS AND SPIKES

METRIC COMMON NAIL, SHOWN ON THE PLANS Length, mm Diameter, mm	METRIC BOX NAIL, SHOWN ON THE PLANS Length, mm Diameter, mm	METRIC SPIKE, SHOWN ON THE PLANS Length, mm Diameter, mm	SIZE TO BE SUBSTITUTED Penny-weight
50.80 2.87	50.80 2.51	————	6d
63.50 3.33	63.50 2.87	————	8d
76.20 3.76	76.20 3.25	76.20 4.88	10d
82.55 3.76	82.55 3.25	82.55 4.88	12d
88.90 4.11	88.90 3.43	88.90 5.26	16d
101.60 4.88	101.60 3.76	101.60 5.72	20d
114.30 5.26	114.30 3.76	114.30 6.20	30d
127.00 5.72	127.00 4.11	127.00 6.68	40d
————	————	139.70 7.19	50d
————	————	152.40 7.19	60d

**SUBSTITUTION TABLE FOR IRRIGATION
COMPONENTS**

METRIC WATER METERS, TRUCK LOADING STANDPIPES, VALVES, BACKFLOW PREVENTERS, FLOW SENSORS, WYE STRAINERS, FILTER ASSEMBLY UNITS, PIPE SUPPLY LINES, AND PIPE IRRIGATION SUPPLY LINES SHOWN ON THE PLANS DIAMETER NOMINAL (DN) mm	NOMINAL SIZE TO BE SUBSTITUTED inch
15	1/2
20	3/4
25	1
32	1-1/4
40	1-1/2
50	2
65	2-1/2
75	3
100	4
150	6
200	8
250	10
300	12
350	14
400	16

Unless otherwise specified, substitutions of United States Standard Measures standard structural shapes corresponding to the metric designations shown on the plans and in conformance with the requirements in ASTM Designation: A 6/A 6M, Annex 2, will be allowed.

8-1.02 PREQUALIFIED AND TESTED SIGNING AND DELINEATION MATERIALS

The Department maintains the following list of Prequalified and Tested Signing and Delineation Materials. The Engineer shall not be precluded from sampling and testing products on the list of Prequalified and Tested Signing and Delineation Materials.

The manufacturer of products on the list of Prequalified and Tested Signing and Delineation Materials shall furnish the Engineer a Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications for each type of traffic product supplied.

For those categories of materials included in the list of Prequalified and Tested Signing and Delineation Materials, only those products shown within the listing may be used in the work. Other categories of products, not included in the list of Prequalified and Tested Signing and Delineation Materials, may be used in the work provided they conform to the requirements of the Standard Specifications.

Materials and products may be added to the list of Prequalified and Tested Signing and Delineation Materials if the manufacturer submits a New Product Information Form to the New Product Coordinator at the Transportation Laboratory. Upon a Departmental request for samples, sufficient samples shall be submitted to permit performance of required tests. Approval of materials or products will depend upon compliance with the specifications and tests the Department may elect to perform.

PAVEMENT MARKERS, PERMANENT TYPE

Retroreflective

- A. Apex, Model 921 (100 mm x 100 mm)
- B. Ray-O-Lite, Models SS (100 mm x 100 mm), RS (100 mm x 100 mm) and AA (100 mm x 100 mm)
- C. Stimsonite, Models 88 (100 mm x 100 mm), 911 (100 mm x 100 mm), 953 (70 mm x 114 mm)
- D. 3M Series 290 (89 mm x 100 mm)

Retroreflective With Abrasion Resistant Surface (ARS)

- A. Apex, Model 921AR (100 mm x 100 mm)
- B. Ray-O-Lite "AA" ARS (100 mm x 100 mm)
- C. Stimsonite, Models 911 (100 mm x 100 mm), 953 (70 mm x 114 mm)
- D. 3M Series 290 (89 mm x 100 mm)

Retroreflective With Abrasion Resistant Surface (ARS)

(Used for recessed applications)

- A. Stimsonite, Model 948 (58 mm x 119 mm)
- B. Ray-O-Lite, Model 2002 (58 mm x 117 mm)
- C. Stimsonite, Model 944SB (51 mm x 100 mm)*
- D. Ray-O-Lite, Model 2004 ARS (51 mm x 100 mm)*

*For use only in 114 mm wide (older) recessed slots

Non-Reflective For Use With Epoxy Adhesive, 100 mm Round

- A. Apex Universal (Ceramic)
- B. Highway Ceramics, Inc. (Ceramic)

Non-Reflective For Use With Bitumen Adhesive, 100 mm Round

- A. Alpine Products, "D-Dot" and "ANR" (ABS)
- B. Apex Universal (Ceramic)
- C. Apex Universal, Model 929 (ABS)
- D. Elgin Molded Plastics, "Empco-Lite" Model 900 (ABS)
- E. Highway Ceramics, Inc. (Ceramic)
- F. Hi-Way Safety, Inc., Models P20-2000W and 2001Y (ABS)
- G. Interstate Sales, "Diamond Back" (ABS) and (Polypropylene)
- H. Novabrite Models Adot-w (White) Adot-y (Yellow), (ABS)
- I. Road Creations, Model RCB4NR (Acrylic)
- J. Zumar Industries, "Titan TM40A" (ABS)

PAVEMENT MARKERS, TEMPORARY TYPE

Temporary Markers For Long Term Day/Night Use (6 months or less)

- A. Apex Universal, Model 924 (100 mm x 100 mm)
- B. Elgin Molded Plastics, "Empco-Lite" Model 901 (100 mm x 100 mm)
- C. Road Creations, Model R41C (100 mm x 100 mm)
- D. Vega Molded Products "Temporary Road Marker" (75 mm x 100 mm)

Temporary Markers For Short Term Day/Night Use (14 days or less)

(For seal coat or chip seal applications, clear protective covers are required)

- A. Apex Universal, Model 932
- B. Davidson Plastics, Models T.O.M., T.R.P.M., and "HH" (High Heat)
- C. Hi-Way Safety, Inc., Model 1280/1281

STRIPING AND PAVEMENT MARKING MATERIAL

Permanent Traffic Striping and Pavement Marking Tape

- A. Advanced Traffic Marking, Series 300 and 400
- B. Brite-Line, Series 1000
- C. Brite-Line "DeltaLine XRP"
- D. Swarco Industries, "Director 35" (For transverse application only)

- E. Swarco Industries, "Director 60"
- F. 3M, "Stamark" Series 380 and 5730
- G. 3M, "Stamark" Series 420 (For transverse application only)

Temporary (Removable) Striping and Pavement Marking Tape (6 months or less)

- A. Advanced Traffic Marking, Series 200
- B. Brite-Line, Series 100
- C. P.B. Laminations, Aztec, Grade 102
- D. Swarco Industries, "Director-2"
- E. 3M, "Stamark," Series 620
- F. 3M Series A145 Removable Black Line Mask
(Black Tape: For use only on Asphalt Concrete Surfaces)
- G. Advanced Traffic Marking Black "Hide-A-Line"
(Black Tape: For use only on Asphalt Concrete Surfaces)
- H. Brite-Line "BTR" Black Removable Tape
(Black Tape: For use only on Asphalt Concrete Surfaces)

Preformed Thermoplastic (Heated in place)

- A. Flint Trading, "Premark" and "Premark 20/20 Flex"
- B. Pavemark, "Hotape"

Removable Traffic Paint

- A. Belpro, Series 250/252 and No. 93 Remover

Ceramic Surfacing Laminate, 150 mm x 150 mm

- A. Safeline Industries/Highway Ceramics, Inc.

CLASS 1 DELINEATORS

One Piece Driveable Flexible Type, 1700 mm

- A. Carsonite, Curve-Flex CFRM-400
- B. Carsonite, Roadmarker CRM-375
- C. Davidson Plastics, "Flexi-Guide Models 400 and 566"
- D. FlexStake, Model 654 TM
- E. GreenLine Models HWD1-66 and CGD1-66
- F. J. Miller Industries, Model JMI-375 (with soil anchor)

Special Use Flexible Type, 1700 mm

- A. Carsonite, "Survivor" (with 450 mm U-Channel base)
- B. FlexStake, Model 604
- C. GreenLine Models HWD and CGD (with 450 mm U-Channel base)
- D. Safe-Hit with 200 mm pavement anchor (SH248-GP1)
- E. Safe-Hit with 380 mm soil anchor (SH248-GP2) and with 450 mm soil anchor (SH248-GP3)

Surface Mount Flexible Type, 1200 mm

- A. Bent Manufacturing Company, Masterflex Model MF-180EX-48
- B. Carsonite, "Super Duck II"
- C. FlexStake, Surface Mount, Models 704 and 754 TM

CHANNELIZERS

Surface Mount Type, 900 mm

- A. Bent Manufacturing Company, Masterflex Models MF-360-36 (Round) and MF-180-36 (Flat)
- B. Carsonite, "Super Duck" (Flat SDF-436, Round SDR-336)
- C. Carsonite, "Super Duck II" Model SDCF203601MB "The Channelizer"
- D. Davidson Plastics, Flex-Guide Models FG300LD and FG300UR
- E. FlexStake, Surface Mount, Models 703 and 753 TM
- F. GreenLine, Model SMD-36

- G. Hi-Way Safety, Inc. "Channel Guide Channelizer" Model CGC36
- H. The Line Connection, "Dura-Post" Model DP36-3 (Permanent)
- I. The Line Connection, "Dura-Post" Model DP36-3C (Temporary)
- J. Repo, Models 300 and 400
- K. Safe-Hit, Guide Post, Model SH236SMA

CONICAL DELINEATORS, 1070 mm

(For 700 mm Traffic Cones, see Standard Specifications)

- A. Bent Manufacturing Company "T-Top"
- B. Plastic Safety Systems "Navigator-42"
- C. Roadmaker Company "Stacker"
- D. Traffix Devices "Grabber"

OBJECT MARKERS

Type "K", 450 mm

- A. Carsonite, Model SMD-615
- B. FlexStake, Model 701 KM
- C. Repo, Models 300 and 400
- D. Safe-Hit, Model SH718SMA
- E. The Line Connection, Model DP21-4K

Type "K-4" / "Q" Object Markers, 600 mm

- A. Bent Manufacturing "Masterflex" Model MF-360-24
- B. Carsonite, Super Duck II
- C. FlexStake, Model 701KM
- D. Repo, Models 300 and 400
- E. Safe-Hit, Models SH8 24SMA_WA and SH8 24GP3_WA
- F. The Line Connection, Model DP21-4Q

TEMPORARY RAILING (TYPE K) REFLECTORS AND CONCRETE BARRIER MARKERS

Impactable Type

- A. ARTUK, "FB"
- B. Davidson Plastics, Model PCBM-12
- C. Duraflex Corp., "Flexx 2020" and "Electriflexx"
- D. Hi-Way Safety, Inc., Model GMKRM100

Non-Impactable Type

- A. ARTUK, JD Series
- B. Stimsonite, Model 967 (with 83 mm Acrylic cube corner reflector)
- C. Stimsonite, Model 967LS
- D. Vega Molded Products, Models GBM and JD

THREE BEAM BARRIER MARKERS

(For use to the left of traffic)

- A. Duraflex Corp., "Railrider"
- B. Davidson Plastics, "Mini" (75 mm x 254 mm)

CONCRETE BARRIER DELINEATORS, 400 mm

(For use to the right of traffic. When mounted on top of barrier, places top of reflective element at 1200 mm)

- A. Davidson Plastics, Model PCBM T-16
- B. Safe-Hit, Model SH216RBM
- C. Sun-Lab Technology, "Safety Guide Light, Model TM," 130 mm x 130 mm x 80 mm

CONCRETE BARRIER-MOUNTED MINI-DRUM (260 mm x 360 mm x 570 mm)

- A. Stinson Equipment Company "SaddleMarker"

SOUND WALL DELINEATOR

(Applied vertically. Place top of 75 mm x 300 mm reflective element at 1200 mm above roadway)

- A. Davidson Plastics, PCBM S-36
- B. Sun-Lab Technology, "Safety Guide Light, Model SM12," 130 mm x 130 mm x 80 mm

GUARD RAILING DELINEATOR

(Top of reflective element at 1200 mm above plane of roadway)

Wood Post Type, 686 mm

- A. Carsonite, Model 427
- B. Davidson Plastics FG 427 and FG 527
- C. FlexStake, Model 102 GR
- D. GreenLine GRD 27
- E. J. Miller Model JMI-375G
- F. Safe-Hit, Model SH227GRD

Steel Post Type

- A. Carsonite, Model CFGR-327 with CFGRBK300 Mounting Bracket

RETROREFLECTIVE SHEETING

Channelizers, Barrier Markers, and Delineators

- A. 3M, High Intensity
- B. Reflexite, PC-1000 Metalized Polycarbonate
- C. Reflexite, AC-1000 Acrylic
- D. Reflexite, AP-1000 Metalized Polyester
- E. Reflexite, AR-1000 Abrasion Resistant Coating
- F. Avery Dennison T-6500 Series (Formerly Stimsonite, Series 6200) (For rigid substrate devices only)

Traffic Cones, 330 mm Sleeves

- A. Reflexite SB (Polyester), Vinyl or "TR" (Semi-transparent)

Traffic Cones, 100 mm and 150 mm Sleeves

- A. 3M Series 3840
- B. Reflexite Vinyl, "TR" (Semi-transparent) or "Conformalite"

Barrels and Drums

- A. Reflexite, "Super High Intensity" or "High Impact Drum Sheeting"
- B. 3M Series 3810

Barricades: Type I, Engineer Grade

- A. American Decal, Adcolite
- B. Avery Dennison, T-1500 and T-1600
- C. 3M, Scotchlite, Series CW

Barricades: Type II, Super Engineer Grade

- A. Avery Dennison, T-2500 Series
- B. Kiwalite Type II
- C. Nikkalite 1800 Series

Signs: Type II, Super Engineer Grade

- A. Avery Dennison, T-2500 Series
- B. Kiwalite, Type II
- C. Nikkalite 1800 Series

Signs: Type III, High-Intensity Grade

- A. 3M Series 3800
- B. Nippon Carbide, Nikkalite Brand Ultralite Grade II

Signs: Type IV, High-Intensity Prismatic Grade

- A. Avery Dennison T-6500 (Formerly Stimsonite Series 6200)

Signs: Type VII, High-Intensity Prismatic Grade

- A. 3M Series 3900

Signs: Type VI, Roll-Up Signs

- A. Reflexite, Vinyl (Orange)
- B. Reflexite "SuperBright" (Fluorescent orange)
- C. Reflexite "Marathon" (Fluorescent orange)
- D. 3M Series RS34 (Orange) and RS20 (Fluorescent orange)

SPECIALTY SIGN (All Plastic)

- A. All Sign Products, STOP Sign, 750 mm

SIGN SUBSTRATE FOR CONSTRUCTION AREA SIGNS

Aluminum

Fiberglass Reinforced Plastic (FRP)

- A. Sequentia, "Polyplate"
- B. Fiber-Brite

8-1.03 SLAG AGGREGATE

Aggregate produced from slag resulting from any steel-making process or from air-cooled iron blast furnace slag shall not be used on this project.

SECTION 8-2. (BLANK)

SECTION 9. (BLANK)

SECTION 10. CONSTRUCTION DETAILS

SECTION 10-1. GENERAL

10-1.01 ORDER OF WORK

Order of work shall conform to the provisions in Section 5-1.05, "Order of Work," of the Standard Specifications and these special provisions.

Cold plane 30 mm (from 18.7 KP to 19.5 KP) to conform at curb and ditch along southbound and cold plane 19 mm from begin to end of project along median on both north and southbound as shown on plans before overlay.

Attention is directed to "Maintaining Traffic" and "Temporary Pavement Delineation" of these special provisions.

Before obliterating any pavement delineation that is to be replaced on the same alignment and location, as determined by the Engineer, the pavement delineation shall be referenced by the Contractor, with a sufficient number of control points to reestablish the alignment and location of the new pavement delineation. The references shall include the limits or changes in striping pattern, including one- and 2-way barrier lines, limit lines, crosswalks and other pavement markings. Full compensation for referencing pavement delineation shall be considered as included in the contract prices paid for new pavement delineation and no additional compensation will be allowed therefor.

10-1.02 WATER POLLUTION CONTROL

Water pollution control work shall conform to the provisions in Section 7-1.01G, "Water Pollution," of the Standard Specifications and these special provisions.

Water pollution control work shall conform to the requirements in the Construction Contractor's Guide and Specifications of the Caltrans Storm Water Quality Handbooks, dated April 1997, and addenda thereto issued up to and including the date of advertisement of the project, hereafter referred to as the "Handbook." Copies of the Handbook may be obtained from the Department of Transportation, Material Operations Branch, Publication Distribution Unit, 1900 Royal Oaks Drive, Sacramento, California 95815, Telephone: (916) 445-3520.

Copies of the Handbook are also available for review at Department of Transportation District 08, Environmental Technical Branch, 464 West Fourth Street, San Bernardino, California 92401, Telephone (909) 383-4561.

The Contractor shall know and fully comply with the applicable provisions of the Handbook and Federal, State, and local regulations that govern the Contractor's operations and storm water discharges from both the project site and areas of disturbance outside the project limits during construction.

Unless arrangements for disturbance of areas outside the project limits are made by the Department and made part of the contract, it is expressly agreed that the Department assumes no responsibility whatsoever to the Contractor or property owner with respect to any arrangements made between the Contractor and property owner to allow disturbance of areas outside the project limits.

The Contractor shall be responsible for the costs and for liabilities imposed by law as a result of the Contractor's failure to comply with the requirements set forth in this section "Water Pollution Control" including, but not limited to, compliance with the applicable provisions of the Handbook and Federal, State, and local regulations. For the purposes of this paragraph, costs and liabilities include, but are not limited to, fines, penalties, and damages whether assessed against the State or the Contractor, including those levied under the Federal Clean Water Act and the State Porter Cologne Water Quality Act.

In addition to the remedies authorized by law, an amount of the money due the Contractor under the contract, as determined by the Department, may be retained by the State of California until disposition has been made of the costs and liabilities.

The retention of money due the Contractor shall be subject to the following:

- A. The Department will give the Contractor 30 days notice of the Department's intention to retain funds from partial payments which may become due to the Contractor prior to acceptance of the contract. Retention of funds from payments made after acceptance of the contract may be made without prior notice to the Contractor.
- B. No retention of additional amounts out of partial payments will be made if the amount to be retained does not exceed the amount being withheld from partial payments pursuant to Section 9-1.06, "Partial Payments," of the Standard Specifications.
- C. If the Department has retained funds and it is subsequently determined that the State is not subject to the costs and liabilities in connection with the matter for which the retention was made, the Department shall be liable for interest on the amount retained at the legal rate of interest for the period of the retention.

Conformance with the provisions in this section "Water Pollution Control" shall not relieve the Contractor from the Contractor's responsibilities as provided in Section 7, "Legal Relations and Responsibilities," of the Standard Specifications.

WATER POLLUTION CONTROL PROGRAM PREPARATION, APPROVAL AND UPDATES

As part of the water pollution control work, a Water Pollution Control Program, hereafter referred to as the "WPCP," is required for this contract. The WPCP shall conform to the provisions in Section 7-1.01G, "Water Pollution," of the Standard Specifications, the requirements in the Handbook, and these special provisions.

No work having potential to cause water pollution, as determined by the Engineer, shall be performed until the WPCP has been approved by the Engineer.

Within 7 days after the approval of the contract, the Contractor shall submit 3 copies of the WPCP to the Engineer. The Engineer will have 3 days to review the WPCP. If revisions are required, as determined by the Engineer, the Contractor shall revise and resubmit the WPCP within 7 days of receipt of the Engineer's comments. The Engineer will have 3 days to review the revisions. Upon the Engineer's approval of the WPCP, 3 additional copies of the WPCP incorporating the required changes shall be submitted to the Engineer. Minor changes or clarifications to the initial submittal may be made and attached as amendments to the WPCP. In order to allow construction activities to proceed, the Engineer may conditionally approve the WPCP while minor revisions or amendments are being completed.

The WPCP shall identify pollution sources that may adversely affect the quality of storm water discharges associated with the project and shall identify water pollution control measures, hereafter referred to as control measures, to be constructed, implemented, and maintained in order to reduce to the extent feasible pollutants in storm water discharges from the construction site during construction under this contract.

The WPCP shall incorporate control measures in the following categories:

- A. Soil stabilization practices;
- B. Sediment control practices;
- C. Sediment tracking control practices;
- D. Wind erosion control practices; and
- E. Nonstorm water management and waste management and disposal control practices.

Specific objectives and minimum requirements for each category of control measures are contained in the Handbook.

The Contractor shall consider the objectives and minimum requirements presented in the Handbook for each of the above categories. When minimum requirements are listed for any category, the Contractor shall incorporate into the WPCP and implement on the project, one or more of the listed minimum controls required in order to meet the pollution control objectives for the category. In addition, the Contractor shall consider other control measures presented in the Handbook and shall incorporate into the WPCP and implement on the project the control measures necessary to meet the objectives of the WPCP. The Contractor shall document the selection process in conformance with the procedure specified in the Handbook.

The WPCP shall include, but not be limited to, the following items as described in the Handbook:

- A. Project description and Contractor's certification;
- B. Project information;
- C. Pollution sources, control measures, and water pollution control drawings; and
- D. Amendments, if any.

The Contractor shall amend the WPCP, graphically and in narrative form, whenever there is a change in construction activities or operations which may affect the discharge of significant quantities of pollutants to surface waters, ground waters, municipal storm drain systems or when deemed necessary by the Engineer. The WPCP shall be amended if the WPCP has not achieved the objective of reducing pollutants in storm water discharges. Amendments shall show additional control measures or revised operations, including those in areas not shown in the initially approved WPCP, which are required on the project to control water pollution effectively. Amendments to the WPCP shall be submitted for review and approval by the Engineer in the same manner specified for the initially approved WPCP. Amendments shall be dated and attached to the on-site WPCP document.

The Contractor shall keep a copy of the WPCP, together with updates, revisions and amendments at the project site.

WPCP IMPLEMENTATION

Upon approval of the WPCP, the Contractor shall be responsible throughout the duration of the project for installing, constructing, inspecting, and maintaining the control measures included in the WPCP and any amendments thereto and for removing and disposing of temporary control measures. Unless otherwise directed by the Engineer or specified in these special provisions, the Contractor's responsibility for WPCP implementation shall continue throughout any temporary suspension of work ordered in conformance with the provisions in Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications. Requirements for installation, construction, inspection, maintenance, removal, and disposal of control measures are specified in the Handbook and these special provisions.

Soil stabilization practices and sediment control measures, including minimum requirements, shall be provided throughout the winter season, defined as between November 1 and March 1.

Implementation of soil stabilization practices and sediment control measures for soil-disturbed areas on the project site shall be completed, except as provided for below, not later than 20 days prior to the beginning of the winter season or upon start of applicable construction activities for projects which begin either during or within 20 days of the winter season.

Throughout the winter season, the active, soil-disturbed area of the project site shall be not more than 1.9 hectares. The Engineer may approve, on a case-by-case basis, expansions of the active, soil-disturbed area limit. The Contractor shall demonstrate the ability and preparedness to fully deploy soil stabilization practices and sediment control measures to protect soil-disturbed areas on the project site before the onset of precipitation. A quantity of soil stabilization and sediment control materials shall be maintained on site equal to 100 percent of that sufficient to protect unprotected, soil-disturbed areas on the project site. A detailed plan for the mobilization of sufficient labor and equipment shall be maintained to fully deploy control measures required to protect unprotected, soil-disturbed areas on the project site prior to the onset of precipitation. A current inventory of control measure materials and the detailed mobilization plan shall be included as part of the WPCP.

Throughout the winter season, soil-disturbed areas on the project site shall be considered to be nonactive whenever soil disturbing activities are expected to be discontinued for a period of 20 or more days and the areas are fully protected. Areas that will become nonactive either during the winter season or within 20 days thereof shall be fully protected with soil stabilization practices and sediment control measures within 10 days of the discontinuance of soil disturbing activities or prior to the onset of precipitation, whichever is first to occur.

Throughout the winter season, active soil-disturbed areas of the project site shall be fully protected at the end of each day with soil stabilization practices and sediment control measures unless fair weather is predicted through the following work day. The weather forecast shall be monitored by the Contractor on a daily basis. The National Weather Service forecast shall be used. An alternative weather forecast proposed by the Contractor may be used if approved by the Engineer. If precipitation is predicted prior to the end of the following work day, construction scheduling shall be modified, as required, and functioning control measures shall be deployed prior to the onset of the precipitation.

The Contractor shall implement, year-round and throughout the duration of the project, control measures included in the WPCP for sediment tracking, wind erosion, nonstorm water management, and waste management and disposal.

The Engineer may order the suspension of construction operations which create water pollution if the Contractor fails to conform to the provisions in this section "Water Pollution Control" as determined by the Engineer.

MAINTENANCE

To ensure the proper implementation and functioning of control measures, the Contractor shall regularly inspect and maintain the construction site for the control measures identified in the WPCP. The Contractor shall identify corrective actions and time needed to address any deficient measures or reinitiate any measures that have been discontinued.

The construction site inspection checklist provided in the Handbook shall be used to ensure that the necessary measures are being properly implemented, and to ensure that the control measures are functioning adequately. One copy of each site inspection record shall be submitted to the Engineer.

During the winter season, inspections of the construction site shall be conducted by the Contractor to identify deficient measures, as follows:

- A. Prior to a forecast storm;
- B. After all precipitation which causes runoff capable of carrying sediment from the construction site;
- C. At 24-hour intervals during extended precipitation events; and
- D. Routinely, at a minimum of once every 2 weeks.

If the Contractor or the Engineer identifies a deficiency in the deployment or functioning of an identified control measure, the deficiency shall be corrected immediately. The deficiency may be corrected at a later date and time if requested by the Contractor and approved by the Engineer in writing, but not later than the onset of subsequent precipitation events. The correction of deficiencies shall be at no additional cost to the State.

PAYMENT

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

The Engineer will retain an amount equal to 25 percent of the estimated value of the contract work performed during estimate periods in which the Contractor fails to conform to the provisions in this section "Water Pollution Control" as determined by the Engineer.

Retentions for failure to conform to the provisions in this section "Water Pollution Control" shall be in addition to the other retentions provided for in the contract. The amounts retained for failure of the Contractor to conform to the provisions in this section will be released for payment on the next monthly estimate for partial payment following the date that a WPCP has been implemented and maintained and water pollution is adequately controlled, as determined by the Engineer.

10-1.03 OBSTRUCTIONS

Attention is directed to Section 8-1.10, "Utility and Non-Highway Facilities," and Section 15, "Existing Highway Facilities," of the Standard Specifications and these special provisions.

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least 2 working days, but not more than 14 calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert-Northern California (USA)	1-800-642-2444 1-800-227-2600
Underground Service Alert-Southern California (USA)	1-800-422-4133 1-800-227-2600

10-1.04 DUST CONTROL

Dust control shall conform to the provisions in Section 10, "Dust Control," of the Standard Specifications.

10-1.05 CONSTRUCTION AREA TRAFFIC CONTROL DEVICES

Flagging, signs, and all other traffic control devices furnished, installed, maintained, and removed when no longer required shall conform to the provisions in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and these special provisions.

Category 1 traffic control devices are defined as those devices that are small and lightweight (less than 45 kg), and have been in common use for many years. The devices shall be known to be crashworthy by crash testing, crash testing of similar devices, or years of demonstrable safe performance. Category 1 traffic control devices include traffic cones, plastic drums, portable delineators, and channelizers.

If requested by the Engineer, the Contractor shall provide written self-certification for crashworthiness of Category 1 traffic control devices. Self-certification shall be provided by the manufacturer or Contractor and shall include the following: date, Federal Aid number (if applicable), expenditure authorization, district, county, route and kilometer post of project limits; company name of certifying vendor, street address, city, state and zip code; printed name, signature and title of certifying person; and an indication of which Category 1 traffic control devices will be used on the project. The Contractor may obtain a standard form for self-certification from the Engineer.

Category 2 traffic control devices are defined as those items that are small and lightweight (less than 45 kg), that are not expected to produce significant vehicular velocity change, but may otherwise be potentially hazardous. Category 2 traffic control devices include: barricades and portable sign supports.

Category 2 devices purchased on or after October 1, 2000 shall be on the Federal Highway Administration (FHWA) Acceptable Crashworthy Category 2 Hardware for Work Zones list. This list is maintained by FHWA and can be located at the following internet address: <http://safety.fhwa.dot.gov/fourthlevel/hardware/listing.cfm?code=workzone>. The Department maintains a secondary list at the following internet address: <http://www.dot.ca.gov/hq/traffops/signtech/signdel/pdf/FILES.htm>.

Category 2 devices that have not received FHWA acceptance, and were purchased before October 1, 2000, may continue to be used until they complete their useful service life or until January 1, 2003, whichever comes first. Category 2 devices in use that have received FHWA acceptance shall be labeled with the FHWA acceptance letter number and the name of the manufacturer by the start of the project. The label shall be readable. After January 1, 2003, all Category 2 devices without a label shall not be used on the project.

Full compensation for providing self-certification for crashworthiness of Category 1 traffic control devices and labeling Category 2 devices as specified shall be considered as included in the prices paid for the various contract items of work requiring the use of the Category 1 or Category 2 traffic control devices and no additional compensation will be allowed therefor.

10-1.06 CONSTRUCTION AREA SIGNS

Construction area signs shall be furnished, installed, maintained, and removed when no longer required in conformance with the provisions in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and these special provisions.

Attention is directed to the provisions in "Prequalified and Tested Signing and Delineation Materials" of these special provisions. Type II retroreflective sheeting shall not be used on construction area sign panels.

The Contractor shall notify the appropriate regional notification center for operators of subsurface installations at least 2 working days, but not more than 14 calendar days, prior to commencing excavation for construction area sign posts. The regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert-Northern California (USA)	1-800-642-2444 1-800-227-2600
Underground Service Alert-Southern California (USA)	1-800-422-4133 1-800-227-2600

Excavations required to install construction area signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes.

Sign substrates for stationary mounted construction area signs may be fabricated from fiberglass reinforced plastic as specified under "Prequalified and Tested Signing and Delineation Materials" of these special provisions.

10-1.07 MAINTAINING TRAFFIC

Attention is directed to Sections 7-1.08, "Public Convenience," 7-1.09, "Public Safety," and 12, "Construction Area Traffic Control Devices," of the Standard Specifications and to the provisions in "Public Safety" of these special provisions and these special provisions. Nothing in these special provisions shall be construed as relieving the Contractor from the responsibilities specified in Section 7-1.09.

Lane closures shall conform to the provisions in section "Traffic Control System for Lane Closure" of these special provisions.

Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders, including any section closed to public traffic.

The Contractor shall notify local authorities of the intent to begin work at least 5 days before work is begun. The Contractor shall cooperate with local authorities relative to handling traffic through the area and shall make arrangements relative to keeping the working area clear of parked vehicles.

Whenever vehicles or equipment are parked on the shoulder within 1.8 m of a traffic lane, the shoulder area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 7.5 m intervals to a point not less than 7.5 m past the last vehicle or piece of equipment. A minimum of 9 cones or portable delineators shall be used for the taper. A C23 (Road Work Ahead) or C24 (Shoulder Work Ahead) sign shall be mounted on a portable sign stand with flags. The sign shall be placed where designated by the Engineer.

Lanes and ramps shall be closed only during the hours shown on the charts included in this section "Maintaining Traffic." Except work required under Sections 7-1.08 and 7-1.09, work that interferes with public traffic shall be performed only during the hours shown for lane closures.

Advance special message advisory signs shall be placed 10 calendar days in advance of the ramp closure. The Contractor shall notify the Engineer not less than 3 calendar days prior to installing the advance special message advisory signs for ramp closures.

Designated legal holidays are: January 1st, the third Monday in February, the last Monday in May, July 4th, the first Monday in September, November 11th, Thanksgiving Day, and December 25th. When a designated legal holiday falls on a Sunday, the following Monday shall be a designated legal holiday. When November 11th falls on a Saturday, the preceding Friday shall be a designated legal holiday.

Minor deviations from the requirements of this section concerning hours of work which do not significantly change the cost of the work may be permitted upon the written request of the Contractor, if in the opinion of the Engineer, public traffic will be better served and the work expedited. These deviations shall not be adopted by the Contractor until the Engineer has approved the deviations in writing. Other modifications will be made by contract change order.

Chart No. 1 Multilane Lane Requirements																									
Location: Route 83 South of 6th street for Northbound traffic.																									
FROM HOUR TO HOUR	a.m.												p.m.												
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Mondays through Thursdays	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2			2	2	2	1	1	1	
Fridays	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2									
Saturdays																									
Sundays																									
Day before designated legal holiday	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2									
Designated legal holidays																									
Legend:																									
1	One lane open in direction of travel. Lane number 2 and number 3 closed.																								
2	Two adjacent lanes open in direction of travel. Lane number 1 closed.																								
	No lane closure allowed																								
REMARKS:																									

Chart No. 2 Multilane Lane Requirements																									
Location: Route 83 South of 6th street for Southbound traffic.																									
FROM HOUR TO HOUR	a.m.												p.m.												
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Mondays through Thursdays	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	
Fridays	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2										
Saturdays																									
Sundays																									
Day before designated legal holiday	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2										
Designated legal holidays																									
Legend:																									
1	One lane open in direction of travel. Lane number 2 and number 3 closed.																								
2	Two adjacent lanes open in direction of travel. Lane number 1 closed.																								
	No lane closure allowed																								
REMARKS:																									

Chart No. 3 Multilane Lane and *Ramp Requirements																									
Location: Route 83, Northbound and Southbound between 6th street and 7th street.																									
FROM HOUR TO HOUR	a.m.												p.m.												
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Mondays through Thursdays	1	1	1	1	1	1	2													2	2	2	2	1	
Fridays	1	1	1	1	1	1	2																		
Saturdays																									
Sundays																									
Day before designated legal holiday	1	1	1	1	1	1	2																		
Designated legal holidays																									
Legend:																									
1	One lane open in direction of travel. Lane number 2 and number 3 closed.																								
2	Two adjacent lanes open in direction of travel. Lane number 1 closed.																								
	No lane closure allowed																								
REMARKS: * Traffic, entering or exiting the freeway ramps, shall be controlled by flagmen																									

Chart No. 4																								
Multilane Lane Requirements																								
Location: Route 83 North of 7th street for Northbound traffic.																								
FROM HOUR TO HOUR	a.m.												p.m.											
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
Mondays through Thursdays	1	1	1	1	1	1	1	2	2	2	2									2	2	2	1	1
Fridays	1	1	1	1	1	1	1	2	2	2	2													
Saturdays																								
Sundays																								
Day before designated legal holiday	1	1	1	1	1	1	1	2	2	2	2													
Designated legal holidays																								
Legend: <div style="display: flex; margin-bottom: 5px;"> <div style="border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;">1</div> <div>One lane open in direction of travel. Lane number 2 and number 3 closed.</div> </div> <div style="display: flex; margin-bottom: 5px;"> <div style="border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;">2</div> <div>Two adjacent lanes open in direction of travel. Lane number 1 closed.</div> </div> <div style="display: flex; margin-bottom: 5px;"> <div style="border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"></div> <div>No lane closure allowed</div> </div>																								
REMARKS:																								

Chart No. 5																								
Multilane Lane Requirements																								
Location: Route 83 North of 7th street for Southbound traffic.																								
FROM HOUR TO HOUR	a.m.												p.m.											
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
Mondays through Thursdays	1	1	1	1	1	1	2											2	2	2	2	1	1	1
Fridays	1	1	1	1	1	1	2																	
Saturdays																								
Sundays																								
Day before designated legal holiday	1	1	1	1	1	1	2																	
Designated legal holidays																								
Legend: <div style="display: flex; margin-bottom: 5px;"> <div style="border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;">1</div> <div>One lane open in direction of travel. Lane number 2 and number 3 closed.</div> </div> <div style="display: flex; margin-bottom: 5px;"> <div style="border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;">2</div> <div>Two adjacent lanes open in direction of travel. Lane number 1 closed.</div> </div> <div style="display: flex; margin-bottom: 5px;"> <div style="border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"></div> <div>No lane closure allowed</div> </div>																								
REMARKS:																								

10-1.08 CLOSURE REQUIREMENTS AND CONDITIONS

Lane closures shall conform to the provisions in "Maintaining Traffic" of these special provisions and these special provisions.

The term closure, as used herein, is defined as the closure of a traffic lane or lanes, including ramp or connector lanes, within a single traffic control system.

CLOSURE SCHEDULE

By noon Monday, the Contractor shall submit a written schedule of planned closures for the following week period, defined as Friday noon through the following Friday noon.

The Closure Schedule shall show the locations and times when the proposed closures are to be in effect. The Contractor shall use the Closure Schedule request forms furnished by the Engineer. Closure Schedules submitted to the Engineer with incomplete, unintelligible or inaccurate information will be returned for correction and resubmittal. The Contractor will be notified of disapproved closures or closures that require coordination with other parties as a condition of approval.

Amendments to the Closure Schedule, including adding additional closures, shall be submitted to the Engineer, in writing, at least 3 working days in advance of a planned closure. Approval of amendments to the Closure Schedule will be at the discretion of the Engineer.

The Contractor shall confirm, in writing, all scheduled closures by no later than 8:00 a.m. 3 working days prior to the date on which the closure is to be made. Approval or denial of scheduled closures will be made no later than 4:00 p.m. 2 working days prior to the date on which the closure is to be made. Closures not confirmed or approved will not be allowed.

Confirmed closures that are cancelled due to unsuitable weather may be rescheduled at the discretion of the Engineer for the following working day.

CONTINGENCY PLAN

The Contractor shall prepare a contingency plan for reopening closures to public traffic. The Contractor shall submit the contingency plan for a given operation to the Engineer within one working day of the Engineer's request.

LATE REOPENING OF CLOSURES

If a closure is not reopened to public traffic by the specified time, work shall be suspended in conformance with the provisions in Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications. The Contractor shall not make any further closures until the Engineer has accepted a work plan, submitted by the Contractor, that will insure that future closures will be reopened to public traffic at the specified time. The Engineer will have 2 working days to accept or reject the Contractor's proposed work plan. The Contractor will not be entitled to any compensation for the suspension of work resulting from the late reopening of closures.

COMPENSATION

The Contractor shall notify the Engineer of any delay in the Contractor's operations due to the following conditions, and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of those conditions, and the Contractor's loss due to that delay could not have been avoided by rescheduling the affected closure or by judicious handling of forces, equipment and plant, the delay will be considered a right of way delay within the meaning of Section 8-1.09, "Right of Way Delays," and compensation for the delay will be determined in conformance with the provisions in Section 8-1.09:

- A. The Contractor's proposed Closure Schedule is denied and his planned closures are within the time frame allowed for closures in "Maintaining Traffic" of these special provisions, except that the Contractor will not be entitled to any compensation for amendments to the Closure Schedule that are not approved.
- B. The Contractor is denied a confirmed closure.

Should the Engineer direct the Contractor to remove a closure prior to the time designated in the approved Closure Schedule, any delay to the Contractor's schedule due to removal of the closure will be considered a right of way delay within the meaning of Section 8-1.09, "Right of Way Delays," and compensation for the delay will be determined in conformance with the provisions in Section 8-1.09.

10-1.09 TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE

A traffic control system shall consist of closing traffic lanes in conformance with the details shown on the plans, the provisions in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications, the provisions under "Maintaining Traffic" and "Construction Area Signs" of these special provisions, and these special provisions.

The provisions in this section will not relieve the Contractor of responsibility for providing additional devices or taking measures as may be necessary to comply with the provisions in Section 7-1.09, "Public Safety," of the Standard Specifications.

During traffic stripe operations and pavement marker placement operations using bituminous adhesive, traffic shall be controlled, at the option of the Contractor, with either stationary or moving lane closures. During other operations, traffic shall be controlled with stationary lane closures. Attention is directed to the provisions in Section 84-1.04, "Protection From Damage," and Section 85-1.06, "Placement," of the Standard Specifications.

If components in the traffic control system are displaced or cease to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the components to the original condition or replace the components and shall restore the components to the original location.

STATIONARY LANE CLOSURE

When lane closures are made for work periods only, at the end of each work period, components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way, shall be removed from the traveled way and shoulder. If the Contractor so elects, the components may be stored at selected central locations, designated by the Engineer within the limits of the highway right of way.

Each vehicle used to place, maintain and remove components of a traffic control system on multilane highways shall be equipped with a Type II flashing arrow sign which shall be in operation when the vehicle is being used for placing, maintaining or removing the components. Vehicles equipped with Type II flashing arrow sign not involved in placing, maintaining or removing the components when operated within a stationary type lane closure shall only display the caution display mode. The sign shall be controllable by the operator of the vehicle while the vehicle is in motion. The flashing arrow sign shown on the plans shall not be used on the vehicles which are doing the placing, maintaining and removing of components of a traffic control system and shall be in place before a lane closure requiring the sign's use is completed.

MOVING LANE CLOSURE

Flashing arrow signs used in moving lane closures shall be truck-mounted. Changeable message signs used in moving lane closure operations shall conform to the provisions in Section 12-3.12, "Portable Changeable Message Signs," of the Standard Specifications, except the signs shall be truck-mounted and the full operation height of the bottom of the sign may be less than 2.1 m above the ground, but should be as high as practicable.

Truck-mounted attenuators (TMA) for use in moving lane closures shall be any of the following approved models, or equal:

- A. Hexfoam TMA Series 3000, Alpha 1000 TMA Series 1000 and Alpha 2001 TMA Series 2001, manufactured by Energy Absorption Systems, Inc., One East Wacker Drive, Chicago, IL 60601-2076, Telephone (312) 467-6750.
 - 1. Distributor (Northern): Traffic Control Service, Inc., 8585 Thys Court, Sacramento, CA 95828, Telephone 1-800-884-8274, FAX (916) 387-9734.
 - 2. Distributor (Southern): Traffic Control Service, Inc., 1881 Betmor Lane, Anaheim, CA 92805, Telephone 1-800-222-8274.
- B. Cal T-001 Model 2 or Model 3, manufacturer and distributor: Hexcel Corporation, 11711 Dublin Boulevard, P.O. Box 2312, Dublin, CA 94568, Telephone (510) 828-4200.
- C. Renco Rengard Model Nos. CAM 8-815 and RAM 8-815, manufacturer and distributor: Renco Inc., 1582 Pflugerville Loop Road, P.O. Box 730, Pflugerville, TX 78660-0730, Telephone 1-800-654-8182.

Each TMA shall be individually identified with the manufacturer's name, address, TMA model number, and a specific serial number. The names and numbers shall each be a minimum 13 mm high and located on the left (street) side at the lower front corner. The TMA shall have a message next to the name and model number in 13 mm high letters which states, "The bottom of this TMA shall be _____ mm \pm _____ mm above the ground at all points for proper impact performance." Any TMA which is damaged or appears to be in poor condition shall not be used unless recertified by the manufacturer. The Engineer shall be the sole judge as to whether used TMAs supplied under this contract need recertification. Each unit shall be certified by the manufacturer to meet the requirements for TMA in conformance with the standards established by the Transportation Laboratory.

Approvals for new TMA designs proposed as equal to the above approved models shall be in conformance with the procedures (including crash testing) established by the Transportation Laboratory. For information regarding submittal of new designs for evaluation contact: Transportation Laboratory, 5900 Folsom Boulevard, Sacramento, California 95819.

New TMAs proposed as equal to approved TMAs or approved TMAs determined by the Engineer to need recertification shall not be used until approved or recertified by the Transportation Laboratory.

PAYMENT

The contract lump sum price paid for traffic control system shall include full compensation for furnishing all labor (except for flagging costs), materials (including signs), tools, equipment, and incidentals, and for doing all the work involved in placing, removing, storing, maintaining, moving to new locations, replacing and disposing of the components of the traffic control system shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer. Flagging costs will be paid for as provided in Section 12-2.02, "Flagging Costs," of the Standard Specifications.

The adjustment provisions in Section 4-1.03, "Changes," of the Standard Specifications shall not apply to the item of traffic control system. Adjustments in compensation for traffic control system will be made only for increased or decreased traffic control system required by changes ordered by the Engineer and will be made on the basis of the cost of the increased or decreased traffic control necessary. The adjustment will be made on a force account basis as provided in Section 9-1.03, "Force Account Payment," of the Standard Specifications for increased work and estimated on the same basis in the case of decreased work.

Traffic control system required by work which is classed as extra work, as provided in Section 4-1.03D of the Standard Specifications, will be paid for as a part of the extra work.

10-1.10 TEMPORARY PAVEMENT DELINEATION

Temporary pavement delineation shall be furnished, placed, maintained and removed in conformance with the provisions in Section 12-3.01, "General," of the Standard Specifications and these special provisions. Nothing in these special provisions shall be construed as reducing the minimum standards specified in the Manual of Traffic Controls published by the Department or as relieving the Contractor from his responsibility as provided in Section 7-1.09, "Public Safety," of the Standard Specifications.

Before applying binder that would obliterate existing traffic stripes, temporary raised pavement markers shall be placed on the existing traffic stripes (except right edgelines) at intervals of not more than 7.3 m. On double traffic stripes 2 markers shall be placed side by side, one on each stripe, at longitudinal intervals of not more than 7.3 m. Prior to opening the lanes to uncontrolled traffic, the covers shall be removed from the temporary raised pavement markers.

Temporary raised pavement markers shall be, at the option of the Contractor, one of the temporary pavement markers listed for short term day/night use (14 days or less) at seal coat locations in "Prequalified and Tested Signing and Delineation Materials" of these special provisions.

The markers shall be placed in conformance with the manufacturer's installation procedure instructions.

Temporary pavement delineation shall be maintained until replaced with permanent pavement delineation. Temporary pavement delineation shall be removed when, as determined by the Engineer, the temporary pavement delineation conflicts with the permanent pavement delineation.

Full compensation for furnishing, placing and maintaining temporary pavement delineation and the construction area signing and for removing and disposing of these signs and conflicting temporary raised pavement markers, when no longer required, shall be considered as included in the contract prices paid for the seal coat work and no separate payment will be made therefor.

10-1.11 PORTABLE FLASHING BEACON

Portable flashing beacons conforming to the provisions in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications shall be furnished, placed and maintained at the locations shown on the plans or where designated by the Engineer.

If flashing beacons are displaced or are not in an upright position from any cause, during the progress of the work, the Contractor shall immediately repair and repaint or replace the flashing beacons in their original locations.

At the end of each night's work, portable flashing beacon units shall be removed from the traveled way. If the Contractor so elects, the flashing beacon units may be stored at selected central locations designated by the Engineer within the limits of the highway right of way. Full compensation for placing, removing and storing flashing beacon units daily as the work progresses shall be considered as included in the contract unit price paid for flashing beacon (portable) and no additional compensation will be allowed therefor.

The quantity of flashing beacon (portable) to be paid for will be measured by the unit as determined from actual count in place at the locations shown on the plans or at other locations designated by the Engineer. Each flashing beacon will be counted once at each location shown on the plans or at other locations determined by the Engineer. Repaired or replacement portable flashing beacons placed at the locations will not be considered as additional units for payment purposes. Portable flashing beacons shown on the plans as part of a traffic control system shall be considered as part of that traffic control system and will be paid for in conformance with the provisions in "Traffic Control System for Lane Closures" of these special provisions.

The contract unit price paid for flashing beacon (portable) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing, placing, operating, maintaining, repairing, replacing, and removing portable flashing beacons, complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

10-1.12 BARRICADE

Barricades shall be furnished, placed and maintained at the locations shown on the plans, specified in the Standard Specifications or in these special provisions or where designated by the Engineer. Barricades shall conform to the provisions in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and these special provisions.

Attention is directed to "Prequalified and Tested Signing and Delineation Materials" of these special provisions regarding retroreflective sheeting for barricades.

Construction area sign and marker panels conforming to the provisions in Section 12-3.06, "Construction Area Signs," of the Standard Specifications shall be installed on barricades in a manner determined by the Engineer at the locations shown on the plans.

Sign panels for construction area signs and marker panels installed on barricades shall conform to the provisions in Section 12-3.06A, "Stationary Mounted Signs," of the Standard Specifications.

Full compensation for furnishing, installing, maintaining, and removing construction area signs and marker panels on Type II barricades shall be considered as included in the contract unit price paid for the type of barricade involved and no separate payment will be made therefor.

Barricades shown on the plans as part of a traffic control system will be paid for as provided in "Traffic Control System for Lane Closure" of these special provisions and will not be included in the count for payment of barricades.

10-1.13 TEMPORARY CRASH CUSHION MODULE

This work shall consist of furnishing, installing, and maintaining sand filled temporary crash cushion modules in groupings or arrays at each location shown on the plans, as specified in these special provisions or where designated by the Engineer. The grouping or array of sand filled modules shall form a complete sand filled temporary crash cushion in conformance with the details shown on the plans and these special provisions.

Attention is directed to "Public Safety" and "Order of Work", of these special provisions.

GENERAL

Whenever the work or the Contractor's operations establishes a fixed obstacle, the exposed fixed obstacle shall be protected with a sand filled temporary crash cushion. The sand filled temporary crash cushion shall be in place prior to opening the lanes adjacent to the fixed obstacle to public traffic.

Sand filled temporary crash cushions shall be maintained in place at each location, including times when work is not actively in progress. Sand filled temporary crash cushions may be removed during a work period for access to the work provided that the exposed fixed obstacle is 4.6 m or more from a lane carrying public traffic and the temporary crash cushion is reset to protect the obstacle prior to the end of the work period in which the fixed obstacle was exposed. When no longer required, as determined by the Engineer, sand filled temporary crash cushions shall be removed from the site of the work.

MATERIALS

At the Contractor's option, the modules for use in sand filled temporary crash cushions shall be either Energite III Inertial Modules, Fitch Inertial Modules or Traffix Sand Barrels manufactured after March 31, 1997, or equal:

- A. Energite III Inertial Modules, manufactured by Energy Absorption Systems, Inc., One East Wacker Drive, Chicago, IL 60601-2076, Telephone 1-312-467-6750, FAX 1-800-770-6755.
 - 1. Distributor (Northern): Traffic Control Service, Inc., 8585 Thys Court, Sacramento, CA 95828, Telephone 1-800-884-8274, FAX 1-916-387-9734
 - 2. Distributor (Southern): Traffic Control Service, Inc., 1881 Betmor Lane, Anaheim, CA 92805, Telephone 1-800-222-8274, FAX 1-714-937-1070.
- B. Fitch Inertial Modules, manufactured by Roadway Safety Service, Inc., 1050 North Rand Road, Wauconda, IL 60084, Telephone 1-800-426-0839, FAX 1-847-487-9820.
 - 1.. Distributor (Northern): Traffic Control Service, Inc., 8585 Thys Court, Sacramento, CA 95828, Telephone 1-800-884-8274, FAX 1-916-387-9734
 - 2. Distributor (Southern): Traffic Control Service, Inc., 1881 Betmor Lane, Anaheim, CA 92805, Telephone 1-800-222-8274, FAX 1-714-937-1070.

C. Traffix Sand Barrels, manufactured by Traffix Devices, Inc., 220 Calle Pintoresco, San Clemente, CA 92672, Telephone 1-949-361-5663, FAX 1-949-361-9205.

1. Russ Enterprises, Inc., 1533 Berger Drive, San Jose, CA 95112, Telephone 1-408-287-4303, FAX 1-408-287-1929.
2. Statewide Safety, P.O. Box 1440, Pismo Beach, CA 93448, Telephone 1-800-559-7080, FAX 1-805-929-5786.

Modules contained in each temporary crash cushion shall be of the same type at each location. The color of the modules shall be the standard yellow color, as furnished by the vendor, with black lids. The modules shall exhibit good workmanship free from structural flaws and objectionable surface defects. The modules need not be new. Good used undamaged modules conforming to color and quality of the types specified herein may be utilized. If used Fitch modules requiring a seal are furnished, the top edge of the seal shall be securely fastened to the wall of the module by a continuous strip of heavy duty tape.

Modules shall be filled with sand in conformance with the manufacturer's directions, and to the sand capacity in kilograms for each module shown on the plans. Sand for filling the modules shall be clean washed concrete sand of commercial quality. At the time of placing in the modules, the sand shall contain not more than 7 percent water as determined by California Test 226.

Modules damaged due to the Contractor's operations shall be repaired immediately by the Contractor at the Contractor's expense. Modules damaged beyond repair, as determined by the Engineer, due to the Contractor's operations shall be removed and replaced by the Contractor at the Contractor's expense.

INSTALLATION

Temporary crash cushion modules shall be placed on movable pallets or frames conforming to the dimensions shown on the plans. The pallets or frames shall provide a full bearing base beneath the modules. The modules and supporting pallets or frames shall not be moved by sliding or skidding along the pavement or bridge deck.

A Type R or P marker panel shall be attached to the front of the crash cushion as shown on the plans, when the closest point of the crash cushion array is within 3.6 m of the traveled way. The marker panel, when required, shall be firmly fastened to the crash cushion with commercial quality hardware or by other methods determined by the Engineer.

At the completion of the project, temporary crash cushion modules, sand filling, pallets or frames, and marker panels shall become the property of the Contractor and shall be removed from the site of the work. Temporary crash cushion modules shall not be installed in the permanent work.

MEASUREMENT AND PAYMENT

Temporary crash cushion modules placed in conformance with the provisions in "Public Safety" of these special provisions will not be measured nor paid for.

10-1.14 EXISTING HIGHWAY FACILITIES

The work performed in connection with various existing highway facilities shall conform to the provisions in Section 15, "Existing Highway Facilities," of the Standard Specifications and these special provisions.

REMOVE PAVEMENT MARKER

Existing pavement markers, including underlying adhesive, when no longer required for traffic lane delineation as determined by the Engineer, shall be removed and disposed of.

REMOVE THERMOPLASTIC TRAFFIC STRIPE AND PAVEMENT MARKING

All thermoplastic traffic stripes (wider than 100 mm) and all thermoplastic pavement markings to be removed shall be removed as directed by the Engineer.

COLD PLANE ASPHALT CONCRETE PAVEMENT

Existing asphalt concrete pavement shall be cold planed at the locations and to the dimensions shown on the plans.

Planing asphalt concrete pavement shall be performed by the cold planing method. Planing of the asphalt concrete pavement shall not be done by the heater planing method.

Cold planing machines shall be equipped with a cutter head not less than 750 mm in width and shall be operated so that no fumes or smoke will be produced. The cold planing machine shall plane the pavement without requiring the use of a heating device to soften the pavement during or prior to the planing operation.

The depth, width, and shape of the cut shall be as shown on the typical cross sections or as designated by the Engineer. The final cut shall result in a uniform surface conforming to the typical cross sections. The outside lines of the planed area shall be neat and uniform. Planing asphalt concrete pavement operations shall be performed without damage to the surfacing to remain in place.

Planed widths of pavement shall be continuous except for intersections at cross streets where the planing shall be carried around the corners and through the conform lines. Following planing operations, a drop-off of more than 45 mm will not be allowed between adjacent lanes open to public traffic.

Where transverse joints are planed in the pavement at conform lines no drop-off shall remain between the existing pavement and the planed area when the pavement is opened to public traffic. If asphalt concrete has not been placed to the level of existing pavement before the pavement is to be opened to public traffic a temporary asphalt concrete taper shall be constructed. Asphalt concrete for temporary tapers shall be placed to the level of the existing pavement and tapered on a slope of 1:30 (Vertical: Horizontal) or flatter to the level of the planed area.

Asphalt concrete for temporary tapers shall be commercial quality and may be spread and compacted by any method that will produce a smooth riding surface. Temporary asphalt concrete tapers shall be completely removed, including the removal of loose material from the underlying surface, before placing the permanent surfacing. The removed material shall be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

The material planed from the roadway surface, including material deposited in existing gutters or on the adjacent traveled way, shall be removed and disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications. Removal operations of cold planed material shall be concurrent with planing operations and follow within 15 m of the planer, unless otherwise directed by the Engineer.

Cold plane asphalt concrete pavement will be measured by the square meter for the depth (maximum) designated in the Engineer's Estimate. The quantity to be paid for will be the actual area of surface cold planed for the depth (maximum) designated in the Engineer's Estimate, irrespective of the number of passes required to obtain the depth shown on the plans.

The contract price paid per square meter for cold plane asphalt concrete pavement for the depth (maximum) designated in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in cold planing asphalt concrete surfacing and disposing of planed material, including furnishing the asphalt concrete for and constructing, maintaining, removing, and disposing of temporary asphalt concrete tapers, as specified in the Standard Specifications and these special provisions and as directed by the Engineer.

10-1.15 BONDED WEARING COURSE

This work shall consist of constructing a bonded wearing course in conformance with the details shown on the plans and as specified in these special provisions.

Bonded wearing course shall consist of an application of a polymer modified asphalt emulsion membrane followed by a gap graded polymer modified asphalt concrete.

Gap graded polymer modified asphalt concrete shall conform to the provisions for asphalt concrete in Section 39, "Asphalt Concrete," of the Standard Specifications and these special provisions.

Polymer modified asphalt for use in the polymer modified asphalt emulsion membrane and gap graded polymer modified asphalt concrete shall conform to the provisions in Section 92, "Asphalts," of the Standard Specifications and these special provisions.

Polymer modified asphalt emulsion membrane shall conform to the provisions for asphalt emulsion in Section 94, "Asphaltic Emulsions," of the Standard Specifications and these special provisions.

Polymer Modified Asphalt

The polymer modified asphalt binder to be used in the gap graded polymer modified asphalt concrete shall be GGB Grade 1 and shall conform to the following requirements:

Specification Designation	Test Method	GGB Grades			
		1	2	3	4
Flash Point, Cleveland Open Cup, °C, min., original binder	AASHTO T48	230	230	230	230
Brookfield Viscosity, max. 2.0 Pa s test temperature, °C	ASTM D 4402	135	135	135	135
Dynamic Shear, SSD $30 \times (0.6 + SSV)^3$ original binder, °C	California Test 381 Part 1	25	25	25	25
Mass Loss after RTFO test, % max	AASHTO T240	0.6	0.6	0.6	0.6
Dynamic Shear, G*/sin, min. 2.2 kPa RTFO aged residue, test temperature at 10 rad/sec, °C	California Test 381 Part 3	70	64	64	58
Residue from PAV, test temperature, °C	AASHTO PP1-98	110	100	100	100
Dynamic Shear, SSD $-115 \times (SSV) - 50.6$ On PAV aged residue, from AASHTO PP1, °C	California Test 381 Part 1	25	25	25	25
Creep Stiffness, 300 MPa, Max. and M-value, 0.30, Min. residue from PAV, test temperature °C	AASHTO TP1-98	-12	-12	-18	-24

The polymer modified asphalt to be used in the polymer modified asphalt emulsion membrane shall conform to the following requirements:

Specification Designation	Test Method	Requirement	
		Min.	Max.
Saybolt-Furol Viscosity, at 25°C, s	AASHTO T59	20	100
Sieve Test on original emulsion (at time of delivery), %	AASHTO T59	-	0.05
24-hour Storage Stability, % (note a)	AASHTO T59	-	1
Residue by Evaporation, %	California Test 331	63	-
Solubility in Organic Solvent, % (note b)	AASHTO T44	97.5	-
Torsional Recovery, measure entire arc of recovery, at 25°C, %	California Test 332	30	-
Penetration (0.01 mm) at 25°C			
Emulsion used with GGB1 or GGB2	AASHTO T49	70	150
Emulsion used with GGB3	AASHTO T49	90	180
Emulsion used with GGB4	AASHTO T49	100	200

Notes:

- After standing undisturbed for 24 hours, the surface shall show no white, milky colored substance, but shall be a smooth homogeneous color throughout.
- The organic solvent shall be from the approved list available from the Transportation Laboratory.

Each shipment of polymer modified asphalt and polymer modified asphalt emulsion delivered to the project, shall be accompanied by a Certificate of Compliance, in conformance with the provisions in Section 92-1.03, "Test Report," of the Standard Specifications. The Certificate of Compliance shall verify that the results of AASHTO Test Method T240 indicate a maximum mass loss of 0.6 percent and that the results of AASHTO Test Method T48 indicate a minimum flash point of 230°C for the batch represented by the shipment. If the results of mass loss or flash point shown on the Certificate of Compliance, do not meet requirements specified herein, or if the results are not shown on the Certificate of Compliance, the individual shipment of asphalt will be rejected.

The initial shipment of polymer modified asphalt and polymer modified asphalt emulsion shall be accompanied by the actual test results performed by the asphalt producer and shall be provided to the Engineer with the Certificate of Compliance. Thereafter, within 72 hours of delivery, the Contractor shall provide the Engineer with the actual test results for polymer modified asphalt and polymer modified asphalt emulsion to demonstrate compliance with the requirements herein for each batch of polymer modified asphalt and polymer modified asphalt emulsion used in the bonded wearing course.

If polymer modified asphalt and polymer modified asphalt emulsion is unloaded into bulk storage tanks, polymer modified asphalt and polymer modified asphalt emulsion from the tanks shall not be used on the project until a Certificate of Compliance is furnished for the material, which demonstrates compliance with the requirements specified herein.

Polymer modified asphalt to be used as binder in gap graded polymer modified asphalt concrete shall be sampled using the sampling device specified in Section 39-3.01C, "Asphalt Binder Storage," of the Standard Specifications. Two samples per operating day shall be taken from the bulk storage tank feeder line. Each sample shall consist of four 1-liter containers.

If test results of samples taken from the bulk storage tank do not meet the mass loss requirements, the material which is represented by the tests shall be removed.

Aggregate

The aggregate for gap graded polymer modified asphalt concrete prior to the addition of polymer modified asphalt binder, shall conform to the provisions of Section 39-2.02, "Aggregate," of the Standard Specifications and these special provisions.

The aggregate grading for gap graded polymer modified asphalt concrete shall conform to the following:

Percentage Passing 9.5-mm Maximum			
Sieve Sizes	Limits of Proposed Gradation	Operating Range	Contract Compliance
12.5-mm	—	100	100
9.5-mm	—	85-100	82-100
4.75-mm	28-38	X±4	X±8
2.36-mm	25-32	X±4	X±6
1.18-mm	15-23	X±3	X±5
600-µm	10-18	X±3	X±5
300-µm	8-13	X±3	X±5
150-µm	—	5-11	4-12
75-µm	—	3-8	2-9

In the table above, the symbol "X" is the gradation which the Contractor proposes to furnish for the specific sieve. The proposed gradation shall meet the gradation shown in the "Limits of Proposed Gradation" of the table above.

Natural sand shall not be used.

The combined aggregate shall conform to the following requirements prior to the addition of the polymer modified asphalt binder:

Tests	Test Method	Requirement
Percentage of Crushed Particles: Coarse Aggregate, %, min.	California Test 205 (note a)	90
Fine Aggregate (On portion passing a 4.75-mm sieve and retained on a 2.36-mm sieve), %, min.	California Test 205 (note a)	85
Uncompacted Void Content, %, min. (note b)	AASHTO T304 Method A	45
Flat & Elongated Ratio at 3:1, %, max.	ASTM D 4791	25
Los Angeles Rattler Loss at 500 rev., %, max.	California Test 211	35
Sand Equivalent: Contract Compliance, min.	California Test 217	47
Operating Range, min.	California Test 217	50

Note:

a. In California Test 205, Section D, the definition of a crushed particle is revised as follows:
"A particle having 2 or more fresh mechanically fractured faces shall be considered a crushed particle."

b. If the fine aggregate is 100% crushed, the use of crushed material shall be monitored during the production process. If the fine fraction is a combination of crushed and natural materials, the FAA shall be monitored during the process.

The Contractor shall furnish samples of aggregate to the Engineer in conformance with the provisions in Section 39-3.03, "Proportioning," of the Standard Specifications.

Aggregates for gap graded polymer modified asphalt concrete shall be treated in conformance with the provisions in "Lime Treated Aggregates" of these special provisions.

The Contractor shall submit a sample of the proposed polymer modified asphalt to be used as binder in the gap graded polymer modified asphalt concrete and proposed lime to the Engineer with the samples required for mix design verification.

The aggregate from each separate bin used for gap graded polymer modified asphalt concrete, except for the bin containing the fine material, shall have a minimum Cleanness Value of 57 as determined by California Test 227, modified as follows:

- A. Tests will be performed on the material retained on the 2.36-mm sieve from each bin and will not be a combined or averaged result.
- B. Each test specimen will be prepared by hand shaking for 30 seconds, a single loading of the entire sample on a 305-mm diameter, 4.75-mm sieve nested on top of a 305-mm diameter, 2.36-mm sieve.
- C. Where a coarse aggregate bin contains material which will pass the maximum size specified and be retained on a 9.5-mm sieve, the test specimen mass and volume of wash water specified for 25-mm x 4.75-mm aggregate size will be used.
- D. Samples will be obtained from the weigh box area during or immediately after discharge from each bin of the batching plant or immediately prior to mixing with asphalt in the case of continuous mixers.
- E. The Cleanness Value of the sample from each of the bins will be separately computed and reported.

At drier-drum and continuous plants with cold feed control, Cleanness Value test samples shall be obtained from the discharge of each coarse aggregate storage. An aggregate sampling device shall be provided which will provide a 25-kg sample of each coarse aggregate.

Gap Graded Polymer Modified Asphalt Concrete

The amount of polymer modified asphalt binder to be mixed with the aggregate for gap graded polymer modified asphalt concrete shall be determined by the Contractor using California Test 368 and the requirements of these special provisions. Samples of aggregates for use in gap graded polymer modified asphalt concrete shall be obtained in conformance with the provisions in Section 39-3.03, "Proportioning," of the Standard Specifications. The recommended binder content shall be based on estimated film thickness conforming to the draindown requirement. The Engineer will verify the mix design using California Test 368 and the requirements of these special provisions.

In addition to California Test 368, the gap graded polymer modified asphalt concrete shall be designed and evaluated using the following:

Test	Test Method	Requirement	
		Min.	Max
Draindown Test, g	California Test 368	-	4
Film Stripping, %	California Test 302	-	25
Film Thickness, μm	Gradation surface area factor method Asphalt Institute MS-2 Table 6.1	10.0	-

Film thickness will be calculated based on effective asphalt content.

During construction, the polymer modified asphalt binder content of the gap graded polymer modified asphalt concrete will be verified by California Test 382. Samples for determining the polymer modified asphalt binder content shall be obtained from trucks at the plant or from the hopper of the paver as approved by the Engineer.

Storage Proportioning and Mixing

Storage of aggregate and polymer modified asphalt binder shall conform to the provisions in Section 39-3.01, "Storage," of the Standard Specifications.

Gap graded polymer modified asphalt concrete storage shall conform to the provisions for asphalt concrete storage in Section 39-3.05, "Asphalt Concrete and Asphalt Concrete Base Storage," of the Standard Specifications except that the gap graded polymer modified asphalt concrete shall not be stored in excess of 12 hours.

Mixing shall conform to the provisions in Section 39-3.04, "Mixing," of the Standard Specifications except that the temperature of the aggregate before adding the polymer modified asphalt binder shall not be more than 177°C. For continuous mixing, temperature of the completed mixture shall not exceed 177°C at discharge from the mixer.

Spreading and Compacting Equipment

The Contractor shall use an integrated distributor-paver to apply the bonded wearing course.

The integrated distributor-paver shall be capable of spraying the polymer modified asphalt emulsion membrane, applying the gap graded polymer modified asphalt concrete and leveling the surface of the mat in one pass. No wheel or other part of the paving machine shall come in contact with the polymer modified asphalt emulsion membrane before the gap graded polymer modified asphalt concrete course is applied.

The integrated distributor-paver shall incorporate a receiving hopper, screw conveyors, storage tank and spray bar for polymer modified emulsion membrane, and a variable width, heated, vibratory-tamping bar screed. The screed shall have the ability to crown the pavement at the center both positively and negatively and shall have vertically adjustable extensions to accommodate the desired pavement profile. The gap graded polymer modified asphalt concrete shall be placed over the full width of the polymer modified asphalt emulsion membrane with a heated, vibratory-tamping bar screed.

The polymer modified asphalt emulsion membrane shall be applied by a mechanical pressure spray bar. The application rate shall be metered to within a tolerance of 0.08 L/m^2 . The polymer modified asphalt emulsion shall be applied at a uniform rate for the full paving width. The meter shall conform to the requirements of California Test 109. The meter shall be equipped with a device by which the rate of application can be determined while the paver is in operation.

Spreading and Compacting

Before placing the bonded wearing course, the existing pavement surface shall be cleaned in conformance with the provisions of Section 37-1.04, "Preparation for Seal Coat," of the Standard Specifications.

Bonded wearing course shall be placed only when both the atmospheric and the pavement temperatures are above 7°C with no freezing temperatures expected within 24 hours of the placement of the bonded wearing course.

Polymer modified asphalt emulsion shall be applied at a rate of 0.6 L/m^2 to 1.2 L/m^2 . The exact rate shall be determined by the Contractor and approved by the Engineer. The polymer modified asphalt emulsion shall be applied manually where the screed extension or handwork is required outside of the range of the machine mounted spray bar.

Application of bonded wearing course shall be such that the polymer modified asphalt emulsion membrane is placed on the pavement before the gap graded polymer modified asphalt concrete is placed. Placing material in a windrow, then picking it up and placing it in the asphalt paver hopper with loading equipment, shall not be permitted. Placement operations or equipment which do not keep surfaces clean and free of contamination prior to placement of the polymer modified asphalt emulsion membrane or do not prevent tracking through the polymer modified asphalt emulsion membrane prior to placement of the gap graded polymer modified asphalt concrete shall not be used.

Gap graded polymer modified asphalt concrete shall be applied at a temperature not less than 135°C as measured in the hopper of the paving machine. Gap graded polymer modified asphalt concrete shall be spread over the polymer modified asphalt emulsion membrane immediately after the application of the polymer modified asphalt emulsion membrane.

A minimum of one steel-tire, 2-wheeled tandem roller weighing not less than 11 tonnes shall be used to compact gap graded polymer modified asphalt concrete. Rollers and roller operation shall conform to the provisions of Section 39-5.02, "Compacting Equipment," and Section 39-6.03, "Compacting," of the Standard Specifications except that roller operation shall be performed in the static mode only.

Compaction of the bonded wearing course shall consist of a minimum of two passes, before the material temperature has fallen below 90°C .

The bonded wearing course shall not be opened to traffic until the rolling operation is complete and the material has cooled to below 70°C .

Measurement and Payment

Gap graded polymer modified asphalt concrete will be measured and paid for by the tonne in the same manner specified for asphalt concrete in Section 39-8, "Measurement and Payment," of the Standard Specifications. Polymer modified asphalt emulsion will be measured and paid for by the tonne in the same manner specified for asphaltic emulsion in Section 94, "Asphaltic Emulsions," of the Standard Specifications.

The above payments shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in constructing bonded wearing course complete in place, as shown on the plans and as specified in the Standard Specifications and these special provisions, and as directed by the Engineer, except as otherwise provided.

10-1.16 THERMOPLASTIC TRAFFIC STRIPE AND PAVEMENT MARKING

Thermoplastic traffic stripes (wider than 100 mm traffic lines) and pavement markings shall be applied in conformance with the provisions in Section 84, "Traffic Stripes and Pavement Markings," of the Standard Specifications and these special provisions.

Where striping joins existing striping, the Contractor shall begin and end the transition from the existing striping pattern into or from the new striping pattern a sufficient distance to ensure continuity of the striping pattern.

Thermoplastic material shall conform to the requirements in State Specification 8010-19A.

Thermoplastic material for traffic stripes shall be applied at a minimum thickness of 1.8 mm.

10-1.17 THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)

Sprayable thermoplastic traffic stripes (100 mm traffic lines) shall be applied in conformance with the provisions in Section 84, "Traffic Stripes and Pavement Markings," of the Standard Specifications and these special provisions.

Sprayable thermoplastic material shall conform to the requirements of the Department of Transportation Specification PTH 392B, for Thermoplastic Traffic Striping Material, Sprayable, White and Yellow.

Sprayable thermoplastic material for traffic stripes shall be applied by spray methods in a single uniform layer at the minimum thickness of 0.76-mm.

Sprayable thermoplastic material shall be applied to the pavement at a temperature between 177°C and 205°C, unless a different temperature is recommended by the manufacturer.

Sprayable thermoplastic traffic stripes will be measured by the meter along the line of the traffic stripes, without deductions for gaps in broken traffic stripes. A double traffic stripe, consisting of two, 100 mm wide yellow stripes will be measured as one traffic stripe.

The contract price paid per meter for thermoplastic traffic stripe (sprayable) shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in applying sprayable thermoplastic traffic stripes (regardless of the number, widths, and patterns of individual stripes involved in each traffic stripe) including establishing alignment for stripes, and layout work, complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

10-1.18 PAVEMENT MARKERS

Pavement markers shall be placed in conformance with the provisions in Section 85, "Pavement Markers," of the Standard Specifications and these special provisions.

Attention is directed to "Traffic Control System For Lane Closure" of these special provisions regarding the use of moving lane closures during placement of pavement markers with bituminous adhesive.

Retroreflective pavement markers shall comply with the specific intensity provisions for reflectance after abrading the lens surface in conformance with the "Steel Wool Abrasion Procedure" specified for pavement markers placed in pavement recesses in Section 85-1.05, "Retroreflective Pavement Markers," of the Standard Specifications.

SECTION 10-2. (BLANK)

SECTION 10-3. SIGNALS, LIGHTING AND ELECTRICAL SYSTEMS

10-3.01 DESCRIPTION

Loop detector replacement shall conform to the provisions in Section 86, "Signals, Lighting and Electrical Systems," of the Standard Specifications and these special provisions.

10-3.02 CONDUCTORS AND WIRING

Splices shall be insulated by "Method B".

The minimum insulation thickness, at any point, for Type USE, RHH or RHW wire shall be 1.0 mm for conductor sizes No. 14 to No. 10, inclusive, and 1.3 mm for No. 8 to No. 2, inclusive. The minimum insulation thickness, at any point, for Type THW and TW wires shall be 0.69 mm for conductor sizes No. 14 to No. 10, inclusive, 1.02 mm for No. 8, and 1.37 mm for No. 6 to No. 2, inclusive.

10-3.03 DETECTORS

Loop wire shall be Type 2.

Slots shall be filled with hot-melt rubberized asphalt sealant.

At the Contractor's option, where a Type A loop is designated on the plans, a Type E loop may be substituted.

For Type E detector loops, sides of the slot shall be vertical and the minimum radius of the slot entering and leaving the circular part of the loop shall be 40 mm. Slot width shall be a maximum of 20 mm. Loop wire for circular loops shall be Type 2. Slots of circular loops shall be filled with elastomeric sealant or hot melt rubberized asphalt sealant.

The depth of loop sealant above the top of the uppermost loop wire in the sawed slots shall be 50 mm, minimum.

10-3.04 PAYMENT

The contract unit price paid for loop detector replacement shall include full compensation for furnishing all labor, materials, tool, equipment, and incidentals and for doing all the work involved in replacing loops, complete in place including splicing, wire, testing of loops as shown on plans and these special provisions, and as directed by the Engineer.

SECTION 11. (BLANK)

SECTION 12. (BLANK)

SECTION 13. RAILROAD RELATIONS AND INSURANCE

RULES AND REQUIREMENTS FOR CONSTRUCTION ON RAILWAY PROPERTY

SCRRA FORM NO. 37

State Contract No. 08-499404

PART 1 - GENERAL

1.01 Purpose

The rules and requirements are to protect SCRRA's operations, including the proper manner of protecting the tracks, signals, fiber optic cables, pipe lines, other Property, and tenants or licensees upon, adjacent to, across (under, and/or over), and along SCRRA and Member Agency Property during the construction and/or maintenance activities on or adjacent to Railway Property.

1.02 Definitions

SCRRA, is a joint powers authority of five county transportation authorities, organized under the provisions of the Joint Powers Act, Sections, 6500 et seq. of the California Government Code, and Section 130255 of the California Public Utilities Code, that builds, maintains, and operates Metrolink commuter railway system within Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties.

MEMBER AGENCY is that specific county transportation Member Agency(s), whose Property is directly affected by the Contractor's actions herein. The five county transportation Member Agencies are the Los Angeles County Metropolitan Transportation Authority, the Orange County Transportation Authority, the Riverside County Transportation Commission, the San Bernardino Associated Governments, and the Ventura County Transportation Commission.

PROPERTY is defined herein to mean the real and/or personal Property of SCRRA or Member Agency(s).

CONTRACTOR, is an individual, firm, third party, partnership or corporation, or combination thereof, private, municipal or public, including joint ventures, retained by SCRRA or another public entity to provide construction or maintenance services which may impact SCRRA Property and who is referred to throughout this document by singular number and masculine gender.

PUBLIC AGENCY, is defined to mean (i) the federal government and any agencies, departments or subdivisions thereof, and (ii) the State of California or any other state, and any county, city, city and county, district, public authority, public agency, joint powers, municipal corporation, or any other political subdivision or public corporation therein.

1.03 Submittal

Within five (5) working days prior to the planned initiation of any work which may infringe on SCRRA or Member Agency Property, the Contractor shall furnish SCRRA with three sets of, working drawings showing details of construction affecting the tracks and property, specifications, falsework plans, falsework removal plans, shoring plans, shoring or cribbing plans not included in the contract, shop drawings, traffic plans, and other incidents not detailed in plans. The Contractor shall also furnish three sets of calculations of any falsework, shoring, or cribbing which are to be located over, under or adjacent to tracks. Construction details affecting the tracks and the Property, and not included in the contract plans shall be submitted to SCRRA by way of the Public Agency for approval. Plans and calculations shall be stamped by a registered Professional Engineer licensed in the State of California.

The Contractor shall not begin any work until notified by SCRRA that such plans have been approved. Approval of the plans and calculations by SCRRA shall not relieve the Contractor of responsibility for full compliance with contract requirements, for correctness of dimensions, clearances and material quantities, for proper design of details, for proper fabrication and construction techniques, for proper coordination with other trades, and for providing all devices required for safe and satisfactory construction and operation.

PART 2 - RULES AND REQUIREMENTS

2.01 References

When working on the Property, the Contractor must comply with the rules and regulations contained in the current editions of the following documents which are "references" incorporated in this document as if they were set in full in this paragraph. The Contractor agrees to abide by said rules and regulations at all times when on the Property.

1. Right-of-Entry agreement, SCRRA Form No. 6

The Right-of-Entry agreement is an agreement between SCRRA and the Contractor that permit the Contractor, under certain agreed upon conditions, to encroach upon, adjacent to, across (under and/or over), and along SCRRA or Member Agency Property.

2. General Safety Regulations for Construction/Maintenance Activity on Railway Property.

The Regulations are for the benefit of employees of the Contractors and others who are involved in construction, maintenance or other activities on the right-of-way. The Regulations were developed in the interest of safety and protection of trains, passengers or personnel of SCRRA, Member Agency, Operating Railroad(s), and the employees of the Contractor.

3. California Public Utilities Commission (CPUC) General Orders.
4. American Railway Engineering and Maintenance-of-Way Association (AREMA), Manual for Railway Engineering.
5. SCRRA Engineering Standards

2.02 Coordination

The Contractor shall cooperate with SCRRA where work is over or under the tracks, or within the limits of the Property, so as to expedite the work and to avoid interference with the operation of Railway equipment.

The Contractor must understand the Contractor's right to enter the Property is subject to the absolute right of SCRRA or Member Agency to cause the Contractor's work on the Property to cease if, in the opinion of SCRRA or Member Agency, Contractor's activities create hazard to the Property, employees, and/or operations.

It is expected that SCRRA and Member Agency will cooperate with the Contractor such that the work may be handled and performed in an efficient manner, but the Contractor shall have no claim whatsoever for any type of damages or for extra or additional compensation in the event its work is delayed by the work of SCRRA or Member Agency.

The Contractor shall take protective measures as are necessary to keep the Property, including track ballast, free of sand, debris, and other foreign objects and materials resulting from its operations. Any damage to the Property resulting from Contractor's operations will be repaired or replaced by SCRRA or Member Agency at their option and the cost of such repairs or replacement shall be recovered from the Contractor.

The Contractor will perform the construction work in such a manner and at such times as shall not endanger or interfere with SCRRA or Member Agency's operations, including relation to the proper manner of protecting the tracks, signals, fiber optic cables, pipe lines, other Property, and tenants or licensees at or in the vicinity of the work during the period of construction.

All forecasts of train traffic and schedules are approximate. The train schedule shall be used for planning purposes only and shall not be used for scheduling actual work around the railroad tracks. SCRRA reserves the right to run as many trains as practical on any track at any time. The operation of the trains will be at sole discretion of SCRRA or Member Agency. The Contractor's work may be halted or delayed whenever necessary to accommodate train service.

2.03 Excavation and Backfill

The Contractor shall compact all backfill to 90 percent of maximum standard density as determined by AASHTO T-99 or ASTM D-698. Where it becomes necessary to excavate beyond the normal lines of excavation to remove boulders or other interfering objects, the voids remaining after such materials are removed shall be back-filled with suitable material approved by SCRRA. The material obtained from the project excavation will be suitable for use as fill or backfill, provided that all organic material, rubbish, debris, large rocks, and other objectionable material is removed. Any excess material must be disposed of by widening fills or hauling off-site. The excess material must not be piled-up or scattered on the right-of-way.

The Contractor shall perform excavation and grading so that the finished surfaces are in uniform planes with no abrupt breaks in surface and having positive drainage on the right-of-way away from the track structure.

2.04 Clearances

The Contractor shall also abide by the following clearances during the course of construction:

15'-0" Horizontally from centerline of track (including temporary falsework)

22'-6" Vertically above top of rail

21'-6" Vertically above top of rail (Temporary Falsework Clearance - Subject to CPUC approval)

27'-0" Vertically above top of rail for electric wires carrying less than 750 volts

28'-0" Vertically above top of rail for electric wires carrying 750 volts to 15,000 volts

30'-0" Vertically above top of rail for electric wires carrying 15,000 volts to 20,000 volts

34'-0" Vertically above top of rail for electric wires carrying more than 20,000 volts

Any infringement on the above clearances or walkways due to the Contractor's operations shall be submitted to SCRRA and to the Public Agency and shall not be undertaken until approved in writing by SCRRA, and until the Public Agency has obtained any necessary authorization from CPUC for the infringement. No extra compensation will be allowed in the event the Contractor's work is delayed pending SCRRA approval, and/or CPUC authorization.

In the case of impaired vertical clearance above top of rail, SCRRA shall have the option of installing tell-tales or other protective devices SCRRA deems necessary for protection of SCRRA or Member Agency trainmen or rail traffic.

2.05 SCRRA Safety and Protective Services

The Contractor must request and arrange for a flag person, inspector and/or other protective services from SCRRA authorized representative for the following conditions:

- A. When Contractor's personnel and equipment(s) are within twenty (20) feet of the nearest rail.
- B. When any part of any equipment is standing or being operated within or adjacent to the Property, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.
- C. For any excavation below the elevation of track sub-grade if, in the opinion of SCRRA or Member Agency's representative, track or other Property may be subject to settlement or movement.
- D. For any clearing, grubbing, grading, or blasting in proximity to the Property which, in the opinion of SCRRA or Member Agency's representative, may endanger the Property or operations.
- E. For any street construction and maintenance activities requiring temporary work area traffic control which may affect or create unsafe conditions for employees, public, trains and vehicles.

SCRRA will furnish such personnel or other protective services when, in the opinion of SCRRA's representative, the Property, including, but not limited to, tracks, buildings, signals, wire lines or pipelines, may be endangered. The Contractor agrees to reimburse SCRRA or Member Agencies for all cost and expense incurred by SCRRA or Member Agency in connection with the safety and protective services.

The cost of flagging and inspection provided by SCRRA or Member Agency on State Contracts during the period of construction of that portion of the project located on or near the Property, as deemed necessary for the protection of SCRRA and Member Agency's facilities and trains, will be borne on State for a period of 5 calendar days beginning on the date work commences on or near the Property. The Contractor shall pay to the State liquidated damages in the sum of \$600.00 per day for each day in excess of the above 5 calendar days the Contractor works on or near the Property and which requires flagging protection of SCRRA and Member Agency's facilities and trains.

2.06 Time of Work

The contractor will work daylight hours only and no more than five (5) weekdays (not on Saturday, Sunday or legal holidays) per week. Variations from this schedule must have approval of SCRRA's authorized representative.

2.07 Utilities

The Contractor is responsible for the location and protection of any and all surface, sub-surface, and overhead utilities and structures. Approval of the project and this Right-of-Entry agreement by SCRRA and/or Member Agency does not constitute a representation as to the accuracy of completeness of location or the existence or non-existence of any utilities or structures within the limits of this project. The Contractor shall notify the appropriate regional notification centers [Underground Service Alert (DIGALERT) at 1-800-227-2600], railway companies, and utility companies prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire, or other structure. SCRRA is not a member of DIGALERT, it is, therefore, necessary to call SCRRA signal department at (909) 392-8476 to mark signals and communications and conduits. In case of signal emergencies or grade crossing problems, the Contractor shall call SCRRA's 24-hour signal emergency number (888) 446-9720.

There are oil, gas, and fiber optic lines running along most of the right-of-way. Damage to any of the lines will create dangerous and hazardous situation. The Contractor is advised to be extra careful while working on the right-of-way.

2.08 Hazardous/Toxic Materials

The Contractor shall operate and maintain the Property in compliance with all, and shall not cause or permit the Property to be in violation of any federal, state or local environmental, health and/or safety-related laws, regulations, standards, decisions of the courts, permits or permit conditions, currently existing or as amended or adopted in the future which are or become applicable to the Contractor or SCRRA or Member Agency Property. Except for hazardous materials expressly approved by SCRRA and Member Agency in writing, the Contractor shall not cause or permit, or allow the Contractor personnel to cause or permit, or any hazardous materials to be brought upon, stored, used, generated, treated or disposed of on or about the Property. Any hazardous materials on the site shall be stored, used, generated and disposed of in accordance with all applicable environmental laws.

In addition, in the event of any release on or contamination of the Property, the Contractor, at its sole expense, shall promptly take all actions necessary to clean up the affected Property (including SCRRA or Member Agency Property and all affected adjacent Property -whether or not owned by SCRRA or Member Agency) and to return the affected Property to the condition existing prior to such release or contamination, to the satisfaction of SCRRA and Member Agency and any governmental authorities having jurisdiction thereover.

The Contractor shall cooperate with SCRRA in any tests or inspections deemed necessary by SCRRA or Member Agency. The Contractor shall pay or reimburse SCRRA or Member Agency, as appropriate, for all reasonable costs and expenses incurred due to the tests, inspections or any necessary corrective work and inspections thereafter.

2.09 Explosives

The Contractor will not use or store explosives on the Property without prior written approval from SCRRA's Director of Engineering and Construction.

2.10 Temporary Construction Crossing(s)

The Contractor shall not move its equipment or materials across the tracks. No vehicular crossing over SCRRA and/or Member Agency tracks shall be installed or used by contractor without prior written permission of SCRRA and/or Member Agency. Proper grade crossing warning devices and all other devices required by SCRRA must be provided at the Contractor's sole cost.

2.11 Traffic Control

The Contractor shall provide safe and effective control near a highway/railway grade crossing. The Contractor shall make every effort to provide safe conditions for employees, public, trains and vehicles. The Contractor shall visit the job site to study traffic conditions, traffic controls, traffic lane requirements, physical features, visibility and pedestrian traffic.

SCRRA prefers to close the railway/highway grade crossing to vehicle traffic during the construction and maintenance activities. In this case, vehicular traffic shall be rerouted on another street and/or another railway/highway grade crossings. For projects where closure of the railway/highway grade crossing is not possible, the Contractor shall prepare a traffic control plan. The traffic control plan shall comply with applicable, Caltrans, Federal Highway Administration (FHWA) and American Public Works Association (APA) standards. The contractor shall obtain written approval of the plan from SCRRA and appropriate local traffic departments prior to initiating any work.

The traffic control plan should include signs, signals, markings, lighting devices, barricades, channelizing, hand signal devices, etc. The traffic control plan should take into consideration all provisions for adequate clearances, lane closures based on traffic volumes, length of time for crossing closer, type of traffic affected, time of day, material and technique of repair, inconvenience, delay and accident potentials.

The traffic control plan shall minimize traffic congestion at the highway/railway grade crossing. Every effort shall be made to have in place emergency traffic escape routes on the downstream side of the highway/railway grade crossing. As many lanes as possible shall be provided for traffic movement in each direction. Traffic detour lanes shall be arranged so that vehicle traffic will be rerouted to both sides of the highway/railway grade crossing. Railroad crossing gate protection must be maintained in both directions at all times. When railroad crossing gate protection can not be provided, a railroad flag person (railroad flag person protects trains and provides notice of train movement, but does not direct vehicular traffic), Contractor's flag person(s) and/or certified traffic control officer(s) must be present at all times. This type of protection will be used for projects with short duration (four days maximum). SCRRA approval must be obtained and SCRRA reserves the right to approve or disapprove this type protection. If this is not possible or feasible, or at SCRRA's discretion and direction, railroad-crossing gates must be temporarily relocated or installed, at Contractor's expense, so that the gates are upstream of the traffic and all approaches.

The Contractor shall obtain SCRRA's written approval for any changes in traffic control plan. The Contractor shall notify SCRRA in writing at least five working days in advance of any work on the traffic control at the highway/railway grade crossing.

2.12 Sheeting and Shoring Requirements

The sheeting shall be designed to support all lateral forces caused by the earth, railroad and other surcharge loads. The railroad loading to be applied is a Cooper's E-80 loading.

Footings for all piers, columns, walls, or other facilities shall be located and designed so that any temporary sheeting and shoring for support of adjacent track or tracks during construction shall not be closer than ten (10) feet from the centerline of the nearest track.

When excavation is within the theoretical railroad embankment line (theoretical embankment line starts horizontally from the center line of the track (18 inches below the bottom of the rail) and extend eleven feet and then bend down at a slope of one and half part horizontal to one part vertical (1.5:1)) interlocking steel sheet piling driven prior to excavation, must be used to protect track stability.

Shoring outside of the theoretical railroad embankment line may be of soldier piling and lagging elements. Soldier piling and lagging inside the theoretical railroad embankment line may be used when its use is approved by SCRRA.

Any excavation adjacent to track shall be covered and ramped and provided with standard handrails.

The face of all jacking and receiving pits shall be located a minimum of 25 feet from the center line of the nearest track, measured at right angle to the track, unless otherwise approved by SCRRA. The use of trench boxes may be permitted for jacking and receiving pits; however, trench boxes are not acceptable inside the theoretical railroad embankment line.

2.13. Restoration of Property

Upon completion of its work, the Contractor and its subcontractors shall, at the option of SCRRA and Member Agency (a) leave the Property in a condition satisfactory to SCRRA and Member Agency, (b) restore the Property to its original condition (this may include, without limitation, the restoration of any fences removed or damaged by the Contractor or its subcontractors) and (c) remove all of the Contractor's and its subcontractors' tools, equipment and materials from the Property promptly upon completion of work.

Upon receipt of the Contractor's written assertion that the work has been completed, the work will be inspected by SCRRA for acceptance. All work shall be guaranteed by the Contractor against defective workmanship and material furnished by the Contractor for a period of one (1) year from the date the work was accepted by SCRRA.

RIGHT-OF-ENTRY AGREEMENT

SCRRA FORM NO. 6

File No: _____

Recollectible No: _____

This Right-of-Entry agreement is between the Southern California Regional Rail Authority (Hereinafter referred to as SCRRA), and _____
_____(hereinafter referred to as "Contractor.").

This temporary Right-of-Entry agreement is for the purpose of _____
_____ upon, adjacent to, across (under and/or over), and along
SCRRA and specific county transportation Member Agency(s), (hereinafter referred to as
"Member Agency") Property, at or near _____
_____ as shown on attached drawing(s) (to be submitted by the
Contractor with this agreement).

DEFINITIONS

- A. SCRRA, is a joint powers authority of five county transportation agencies, organized under the provisions of the Joint Powers Act, Sections, 6500 et seq. of the California Government Code, and Section 130255 of the California Public Utilities Code, that builds, maintains, and operates Metrolink commuter railroad system within Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties.
- B. MEMBER AGENCY, is that specific county transportation Member Agency(s), whose Property is directly affected by the Contractor's actions herein. The county transportation Member Agencies are the Los Angeles County Metropolitan Transportation Authority, the Orange County Transportation Authority, the Riverside County Transportation Commission, the San Bernardino Associated Governments, and the Ventura County Transportation Commission.
- C. PROPERTY, is defined herein to mean the real and/or personal property of SCRRA and/or Member Agency(s).
- D. INDEMNITIES, are SCRRA and Member Agency, and their respective officers, commissioners, employees, agents, successors and assigns.
- E. CONTRACTOR, is an individual, firm, partnership or corporation, or combination thereof, private, municipal or public, including joint ventures, who is referred to throughout this document by singular number and masculine gender.
- F. OPERATING RAILROAD, is/are that specific passenger or freight related railroad company(s) validly operating on SCRRA and Member Agency track(s). The Operating Railroads are, any combinations of, the National Railroad Passenger Corporation, the Union Pacific Railroad Company, and the Burlington Northern Santa Fe Corporation.

As one of the inducements to and as a part of the consideration for SCRRA and/or Member Agency granting permission to the Contractor to perform such work upon, and adjacent to, across (under, and/or over), and along the Property, the Contractor does hereby agree with SCRRA as follows:

1. References

When working on the Property, the Contractor must comply with the rules and regulations contained in the current editions of the following documents which are "references" incorporated in this document as if they were set out in full in this paragraph. The Contractor, by its signature on the Right-of-Entry agreement, acknowledges receipt of these documents and agrees to abide by said rules and regulations at all times when on the Property.

A. Rules and Requirements for Construction on Railway Property, SCRRRA Form No. 37

B. General Safety Regulations for Construction/Maintenance Activity on Railway Property

2. Starting of Use of Property

The Contractor shall not enter onto the Property unless prior thereto the Contractor has possession of a fully executed copy of this Agreement, has arranged for SCRRRA safety and protective services (flag person, inspector and/or other protective services), and has paid all charges and fees.

3. Termination of Agreement

SCRRRA or Member Agency reserves the right to revoke this temporary agreement at any time upon two hours notice. Unless subsequently modified by SCRRRA, this temporary right of entry shall extend until _____, at which time it shall expire automatically. The Contractor agrees to notify SCRRRA, in writing and verbally, when use of the Property or work is completed. Under no circumstances shall this temporary right of entry be construed as granting to the Contractor or its subcontractors any right, title or interest of any kind or character in, on, or about any Property.

At the request of SCRRRA or Member Agency, Contractor shall remove from the Property any employee of Contractor or any subcontractor or any employee of any subcontractor who fails to conform to the instructions of SCRRRA's or Member Agency's representative in connection with work on the Property, and any right of Contractor to enter upon the Property shall be suspended until such request of SCRRRA or Member Agency is met. Contractors shall indemnify and hold harmless SCRRRA and Member Agency against any claim arising from the removal of any such employee from the Property.

4. Indemnification

Contractor, on behalf of itself and its employees, subcontractors, agents, successors, and assigns, agrees to indemnify, defend, by counsel satisfactory to SCRRRA and Member Agency, and hold harmless SCRRRA and Member Agency, and their respective officers, commissioners, employees, agents, successors and assigns (hereinafter individually and collectively referred to as, "**Indemnities**"), and each of them to the maximum extent allowed by law, from and against all loss, liability, claims, demands, suits, liens, claims of lien, damages (including consequential damages), costs and expenses (including, without limitation, any fines, penalties, judgments, actual litigation expenses, and experts' and actual attorneys' fees), that are incurred by or asserted against Indemnities arising out of or connected in any manner with (i) the acts or omissions to act of the Contractor, or its officers, directors, affiliates, subcontractors or agents or anyone directly or indirectly employed by them or for whose acts the foregoing persons are liable (collectively, "**Personnel**") in connection with or arising from the presence upon or performance of activities by the Contractor or its Personnel with respect to the Property, (ii) bodily and/or personal injury or death of any person (including employees of Indemnities) or damage to or loss of use of Property resulting from such acts or omissions of the Contractor or its Personnel, or (iii) non-performance or breach by Contractor or its Personnel of any term or condition of this Agreement, in each case whether occurring during the term of this Agreement or thereafter.

The foregoing indemnity shall be effective regardless of any negligence (whether active, passive, derivative, joint, concurring or comparative) on the part of Indemnities, unless caused solely by the gross negligence or willful misconduct of Indemnities; shall survive termination of this Agreement; and is in addition to any other rights or remedies which Indemnities may have under the law or under this Agreement.

Claims against the Indemnities by the Contractor or its Personnel shall not limit the Contractor's indemnification obligations hereunder in any way, whether or not such claims against Indemnities may result in any limitation of the amount or type of damages, compensation, or benefits payable by or for the Contractor or its Personnel under workers' compensation acts, disability benefit acts or other employee benefit acts or insurance.

5. Assumption of Liability

To the maximum extent allowed by law, the Contractor assumes any and all risk of loss, damage or injury of any kind to any person or property, including without limitation, the Property and any other property of, or under the control or custody of, the Contractor or its Personnel. The Contractor's assumption of risk shall include, without limitation, loss or damage caused by defects in any structure or improvement on the Property, accident or fire or other casualty on the Property, or electrical discharge, noise or vibration resulting from SCRRA, Member Agency, and Operating Railroad transit operations on or near the Property and any other persons or companies employed, retained or engaged by SCRRA or Member Agency. The Contractor, on behalf of itself and its Personnel (as defined in Section 4, "Liability and Indemnification") as a material part of the consideration for this Agreement, hereby waives all claims and demands against the Indemnities or any such loss, damage or injury of the Contractor and/or its Personnel. The Contractor agrees not to file, cause to be filed or initiate any proceeding in law, equity or admiralty whether judicial, administrative, mediation or arbitration against the Indemnities regarding any such loss, damage or injury of the Contractor and/or its Personnel. In that connection, the Contractor waives the benefit of California Civil Code Section 1542, which provides as follows:

"A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor."

The Contractor also waives the benefit of any other Statute or Common Law Principles of similar effect.

The provisions of this Section shall survive the termination of this Agreement.

6. Insurance

The Contractor, at its sole cost and expense, shall obtain and maintain in full force and effect during the term of this Agreement insurance as required by SCRRA or Member Agency in the amounts, coverage and terms and conditions specified, (which terms and conditions will require, among other things, SCRRA as insured and Member Agency & Operating Railroad as additional insured on policies provided by Contractor, severability of interests and primary coverage provisions), and issued by insurance companies as described on Exhibit "A". SCRRA or Member Agency reserves the right, throughout the term of this Agreement, to review and change the amount and type of insurance coverage it requires in connection with this Agreement or work to be performed on the Property. Prior to entering the Property or performing any work or maintenance on the Property, the Contractor shall furnish SCRRA with insurance endorsements or certificates in the form of Exhibit "B", evidencing the existence, amounts and coverage of the insurance required to be maintained thereunder signed by a person authorized by the insurer to bind coverage on its behalf. In most instances, SCRRA and Member Agency do not allow self-insurance, however, if the Contractor can demonstrate assets and retention funds meeting SCRRA and Member Agency self-insurance requirements, SCRRA and Member Agency may permit the Contractor to self-insure, provided, however that the right to self-insure with respect to any coverage required to be maintained hereunder may be granted or revoked by SCRRA and Member Agency at their sole and absolute discretion. SCRRA or Member Agency shall not be liable for the payment of any premiums or assessments for insurance required to be maintained by the Contractor under this Agreement.

Prior to the expiration of any policy, the Contractor shall furnish SCRRA with certificates of renewal or "binders" thereof. Each certificate shall expressly state that such policies shall not be cancelable or otherwise subject to modification except after thirty (30) days prior written notice to SCRRA and Member Agency.

7. No Assignment

The Contractor shall not assign this Agreement nor any right hereunder without SCRRA's and Member Agency's prior written consent.

8. Compliance by Contractor

The Contractor shall take all steps necessary to assure that its subcontractors comply with the terms and conditions of this Agreement and applicable laws and regulations. The Contractor shall immediately remove any lien against the Property arising from performance of work hereunder by Contractor or any subcontractor.

9. Safety Orientation Class

The Contractor and his subcontractors may be required to attend Pre-Construction meeting and/or SCRRA Safety Orientation Class prior to receiving permission to enter the Property.

10. SCRRA Safety and Protective Services

The Contractor must request and arrange for a flag person, inspector and/or other protective services from SCRRA authorized representative for the following conditions:

- A. When Contractor's personnel and equipment(s) are within twenty (20) feet of the nearest rail.
- B. When any part of the equipment is standing or being operated within or adjacent to the property, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.
- C. For any excavation below the elevation of track sub-grade if, in the opinion of SCRRA or Member Agency representative, track or other Property may be subject to settlement or movement.
- D. For any clearing, grubbing, or blasting in proximity to the Property which, in the opinion of the SCRRA or Member Agency's representative, may endanger the Property or operations.
- E. For any street construction and maintenance activities requiring temporary work area traffic control, which may affect or create unsafe conditions for employees, public, trains and vehicles.

SCRRA will furnish such personnel or other protective services when, in the opinion of SCRRA's representative, the Property, including, but not limited to, tracks, buildings, signals, wire lines or pipelines, may be endangered.

The Contractor shall notify SCRRA a minimum of five (5) working days prior to beginning work on the Property and secure an SCRRA flag person and/or inspector and any other protection SCRRA deems necessary. This prior notification does not guarantee the availability of a flag person or inspector for the proposed date of construction. SCRRA's representative to be contacted prior to entering upon premises is Right of Way Engineer, 700 South Flower Street, Suite 2600, Los Angeles, California 90017-4101, and telephone number (213) 452-0256. The rate for SCRRA inspector and flag person is \$75/hour (4 hours minimum)

11. Reimbursement of Costs and Expenditures

- A. The Contractor agrees to reimburse SCRRA or Member Agency for all cost and expense incurred by SCRRA or Member Agency in connection with said work, including without limitation the expense of furnishing such inspector, and flag person as SCRRA deems necessary, the installation and removal of falsework beneath tracks, restoration of railroad roadbed and tracks, installation of protective devices in case of impaired clearances, and restoration of the Property to the same condition as when Contractor entered thereon, or to a condition satisfactory to SCRRA's and Member Agency's representative.
- B. The Contractor also agrees to reimburse SCRRA, Member Agency and/or Operating Railroad for any and all cost and expense incurred as a result of Contractor's work which may result in (I) delay to the trains or interference in any manner with the operation of trains, (ii) disruption to normal train operation, (iii) unreasonable inconvenience to the public or private user of the system, (iv) loss of revenue, and (v) alternative method of transportation for the passengers. SCRRA will submit final bills to the Contractor for cost incurred.

- C. Prior to commencement of work, the Contractor shall deposit with SCRRA the sum of _____ dollars (\$) _____ representing the estimated expense to be incurred by SCRRA and Member Agency in connection with said work. The deposit shall be applied to SCRRA's and Member Agency's actual costs and expenditures. The Contractor shall be responsible to pay any amount exceeding the above deposit upon receipt of notice or invoice by SCRRA. Any deposit amounts in excess of SCRRA's and Member Agency's costs and expenditures shall be returned to the Contractor within reasonable time.
- D. If there is no amount indicated in the blank space provided above for the deposit to be made by the Contractor, and if prior SCRRA approval is obtained, in lieu of such deposit Contractor shall cause surety bond to be executed by a reliable surety acceptable to SCRRA and Member Agency, conditioned upon the faithful performance of the provisions of this Agreement.

On State Contracts, above conditions A, C, and D do not apply. The cost for flagging and inspection on State Contracts shall be borne by the State and paid through the negotiated Service Contract with the Railroad.

12. Traffic Control

The Contractor shall provide safe and effective traffic control near a highway/railway grade crossing. The Contractor shall make every effort to provide safe conditions for employees, public, trains and vehicles.

The Contractor shall refer to Section 2.11 – Traffic Control, Rules and Requirements for Construction on Railway Property, SCRRA Form No. 37 for additional requirements.

13. Emergency Telephone Numbers

The Contractor must immediately contact SCRRA in case of accidents, personal injury, defect in track, bridge or signals, or any unusual condition, which may affect the safe operation of the railroads. The following are SCRRA's emergency numbers.

Metrolink Chief Dispatcher	(909) 593-0661 or	(888) 446-9715
Metrolink Sheriff's Dispatcher	(323) 563-5280	
Signal emergencies and grade crossing problems		(888) 446-9721
Signal and Communications Cable Location		(909) 392-8476

14. Notices

Except as otherwise provided in this agreement, all notices, statements, demands, approvals, or other communications to be given under or pursuant to this agreement will be in writing, addressed to the parties at their respective addresses as provided below, and will be delivered in person, or by certified or registered mail, postage paid, or by telegraph or cable, charges pre-paid.

SCRRA: Manager Public Projects
Southern California Regional Rail Authority (SCRRA)
700 South Flower Street, Suite 2600
Los Angeles, CA 90017-4101

Attn: Right of Way Engineer

The Contractor hereby agrees to the terms as set forth in this agreement, and hereby acknowledges receipt of this agreement and of the insurance certificate forms (**Exhibits A & B**) herein provided.

(Name of Contractor)

By: _____
(Signature)

(Address)

(Print Name)

(Title)

(Telephone) _____ (Contractor's License No.) _____

(Fax)

Receipt of the foregoing agreement and certificates of insurance furnished by the Contractor are hereby acknowledged this _____ day of _____ 19____

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY

By: _____
(Insurance Coordinator)

By: _____
(Manager Public Projects)

[Approved As To Form By Legal Counsel]

EXHIBIT "A"
INSURANCE REQUIREMENTS FOR RIGHT OF ENTRY AGREEMENTS

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to Property which may arise from or in connection with the performance of the work by the Contractor, his agents, representatives, employees or subcontractors.

1. Minimum Scope of Insurance

Coverage shall be at least as broad as:

- ☒ Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001).
- ☒ Insurance Services Office form No. CA 0001 (Ed. 1/87) covering Auto. Liability, code 1(any auto).
- ☒ Worker's Compensation insurance as required by the State of CA. & Employer's Liability Insurance.
- ☐ Course of Construction insurance form providing coverage for "all risks" of loss.
- ☐ Property insurance against all risks of loss to any tenant improvements or betterment.
- ☐ Contractor's Pollution Liability

2. Minimum Limits of Insurance

Contractor shall maintain limits no less than:

- ☒ General Liability: \$2,000,000 per occurrence for bodily injury, personal injury and Property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
- ☒ Automobile Liability: \$1,000,000 per accident for bodily injury and Property damage.
- ☒ Employer's Liability: \$1,000,000 per accident for bodily injury or disease.
- ☐ Course of Construction: Completed value of the project.
- ☐ Property Insurance: Full replacement cost with no coinsurance penalty provision.
- ☐ Contractor's Pollution Liability: \$1,000,000 per occurrence/\$2,000,000 annual aggregate

3. Certificate Holder/Additional Insured

Certificate holder and/or insured will be the following:

- ☒ Southern California Regional Rail/Authority (SCRRA)

Additionally Insured will be the following:

- | | |
|---|---|
| <input type="checkbox"/> Los Angeles County Metropolitan Trans. Auth. (MTA) | <input checked="" type="checkbox"/> Burlington Northern Santa Fe Corporation (BNSF) |
| <input type="checkbox"/> Orange County Transportation Authority (OCTA) | <input type="checkbox"/> Union Pacific Railroad Company (UPRR) |
| <input type="checkbox"/> Riverside County Transportation Commission (RCTC) | <input type="checkbox"/> National Railroad Passenger Corporation (Amtrak) |
| <input checked="" type="checkbox"/> San Bernardino Associated Government (SANBAG) | <input type="checkbox"/> Others |
| <input type="checkbox"/> Ventura County Transportation Commission (VCTC) | |

4. Railroad Protective Liability Insurance

☒ Railroad Protective Liability Insurance

The Contractor shall provide, with respect to the operations they or any of their Subcontractors perform on the Property as per criteria shown in "Rules and Requirements for Construction on Railway Property", Railroad Protective Liability Insurance, AAR-AASHTO (ISO/RIMA) in the name of the railroads and Member Agencies shown in Section 3 above. Insured:

The policy shall have limits of liability of not less than **\$2 million per occurrence**, combined single limit, for coverage and for losses arising out of injury to or death of all persons, and for physical loss or damage to or destruction of Property, including the loss of use thereof. A **\$6 million annual aggregate** shall apply. If coverage is provided on the London claims-made form, the following provisions shall apply:

- A. The limits of liability shall be not less than \$3 million per occurrence, combined single limit. A \$9 million aggregate may apply.
- B. Declarations item 6, extended claims made date, shall allow an extended claims made period no shorter than the length of the original policy period plus one year.
- C. If equivalent, or better, wording is not contained in the policy form, the following endorsement must be included:

It is agreed that "physical damage to Property" means direct and accidental loss of or damage to rolling stock and their contents, mechanical construction equipment or motive power equipment, railroad tracks, roadbed, categories, signals, bridges or buildings.

For certain low-hazard activity such as minor station maintenance, repair or construction; bridge painting; overhead fiber optic cables crossing; etc., Contractor may request that the SCRRRA and Member Agency waive the requirement to provide the Railroad Protective Liability Insurance, in exchange for a fee. The waiver fee shall be established by the Risk Management Department.

If the exposure to the track is physically separated by a building, floor, or a continuous fence (no thoroughfares) and the employees of the Contractor are explicitly notified that they are not permitted to have any contact with the track, the Railroad Protective Liability Insurance requirement may be waived by SCRRRA's Manager Public Projects or his/her designated representative.

5. Deductibles and Self-Insured Retention's

Any deductibles or self-insured retentions must be declared to and approved by SCRRRA and Member Agency. At the option of SCRRRA, either: the insurer shall reduce or eliminate such deductibles or self-insured retention's as respects SCRRRA and Member Agency, its officials and employees or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

6. Other Insurance Provisions

The General Liability and Automobile Liability policies are to contain, or be endorsed to contain, the following provisions:

- A. SCRRRA and Member Agency, its subsidiaries, officials and employees are to be covered as insured as respects: liability arising out of activities performed by or on behalf of the Contractor; premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to SCRRRA and Member Agency, its subsidiaries, officials and employees.
- B. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects SCRRRA and Member Agency, its subsidiaries, officials and employees. Any insurance or self-insurance maintained by SCRRRA and Member Agency, its subsidiaries, officials and employees shall be excess of the Contractor's insurance and shall not contribute with it.

- C. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not effect coverage provided to SCRRA and Member Agency, its subsidiaries, officials and employees.
- D. The Contractor insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- E. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to SCRRA and/or Member Agency.

Course of Construction policies shall contain the following provisions:

- A. SCRRA and Member Agency shall be named as loss payee.
- B. The insurer shall waive all rights subrogation against SCRRA and Member Agency.

7. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise approved by SCRRA and Member Agency.

8. Verification of Coverage

Contractor shall furnish SCRRA with original endorsements effecting coverage required by this clause. The endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. The endorsements are to be on forms provided by SCRRA. All endorsements are to be received and approved by SCRRA before work commences. As an alternative to SCRRA's forms, the Contractor's insurer may provide complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications.

9. Subcontractors

Contractor shall include all subcontractors as insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.

10. Train Services

Approximate daily train traffic is 28 passenger trains and 6 freight trains.

11. Submittal

The original insurance policy (s) shall be submitted to:

Manager Public Projects
Southern California Regional Rail Authority (SCRRA)
700 South Flower Street, Suite 2600
Los Angeles, CA 90017-4101
Attn: Right of Way Engineer

EXHIBIT "B"
RAILROAD PROTECTIVE LIABILITY POLICY
DECLARATION

POLICY Insurance Company: Policy Number: Policy Period: From: _____ To: _____ 12:01am Standard time at location			
NAMED INSURED AND MAILING ADDRESS <div style="text-align: right;">Insured:</div> <input checked="" type="checkbox"/> Southern California Regional Rail Authority (SCRRA) 700 South Flower Street, Suite 2600 Los Angeles, CA 90017-4101 <div style="text-align: center;">Additionally Insured:</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Los Angeles County Metropolitan Trans. Auto. (MTA) <input type="checkbox"/> Orange County Transportation Authority (OCTA) <input type="checkbox"/> Riverside County Transportation Commission (RCTC) <input checked="" type="checkbox"/> San Bernardino Associated Governments (SANBAG) <input type="checkbox"/> Ventura County Transportation Commission (VCTC) </div> <div style="width: 48%;"> <input checked="" type="checkbox"/> Burlington Northern Santa Fe Corporation (BNSF) <input type="checkbox"/> Union Pacific Railroad Company (UPRR) <input type="checkbox"/> National Railroad Passenger Corporation (Amtrak) <input type="checkbox"/> Others </div> </div>			
LIMITS OF INSURANCE Aggregate Limit: _____		Each Occurrence Limit: _____	
DESCRIPTION OF WORK AND JOB LOCATION(S)			
NAME AND ADDRESS OF DESIGNATED CONTRACTOR			
NAME AND ADDRESS OF INVOLVED GOVERNMENT AUTHORITY OR OTHER CONTRACTING PARTY			
PREMIUM Contract Cost _____ Premium Base _____ Rate per 1,000 of _____ Advance Premium _____			
FORM OF ENDORSEMENT <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> Title </div> <div style="width: 35%;"> Number </div> </div>			
COUNTERSIGNATURE Countersigned by _____ Date _____ <div style="text-align: center;"><i>(Authorized Representative)</i></div>			

EXHIBIT 'B'**CERTIFICATE OF INSURANCE,**
Southern California Regional Rail Authority (SCRRRA)

PRODUCER

INSURED

THIS CERTIFICATE OF INSURANCE IS NOT AN INSURANCE POLICY AND DOES NOT AMEND, EXTEND OR ALTER THIS COVERAGE AFFORDED BY THE POLICY BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY A

LETTER

COMPANY B

LETTER

COMPANY C

LETTER

COMPANY D

LETTER

COMPANY E

LETTER

COVERAGE

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENTS, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR. <input type="checkbox"/> OWNER'S & CONTRACTOR'S PROT. <input type="checkbox"/> OTHER				GENERAL AGGREGATE PRODUCTS-COMP/OP AGG. PERSONAL & ADV. INJURY EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED. EXPENSE (Any one person)	\$ \$ \$ \$ \$ \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTO <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS <input type="checkbox"/> GARAGE LIABILITY				COMBINED SINGLE LIMIT BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE	\$ \$ \$ \$
	EXCESS LIABILITY <input type="checkbox"/> UMBRELLA FORM <input type="checkbox"/> OTHER THAN UMBRELLA FORM				EACH OCCURANCE AGGREGATE	\$ \$
	PROPERTY INSURANCE <input type="checkbox"/> COURSE OF CONSTRUCTION				AMOUNT OF INSURANCE	\$
	WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY				STATUARY LIMITS EACH ACCIDENT DISEASE-POLICY LIMIT DISEASE-EACH EMPLOYEE	\$ \$ \$ \$

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS**THE FOLLOWING PROVISIONS APPLY:**

- None of the above-described policies will be cancelled, limited in scope of coverage or non renewed until after 30 days' written notice has been given to SCRRRA at the address indicated below.
- As respects operations of the named insured performed on behalf of SCRRRA, the following are added as additional insured on all liability insurance policies listed above: SCRRRA, its Member Agencies, Operating Railroads, its subsidiaries, officials and employees.
- It is agreed that any insurance of self-insurance maintained by SCRRRA will apply in excess of and not contribute with, the insurance described above.
- SCRRRA is named a loss payee on the property insurance policies described above, if any.
- All rights of subrogation under the property insurance policy listed above have been waived against SCRRRA.
- Any failure by the insured to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to SCRRRA, its Member Agencies, its subsidiaries, officials and employees.
- The worker's compensation insurer named above, if any, agrees to waive all rights of subrogation against SCRRRA for injuries to employees of the insured resulting from work for SCRRRA or use of Member Agencies premises or facilities.

CERTIFICATE HOLDER/ADDITIONAL INSURED

☒ Southern California Regional Rail Authority (SCRRRA)
P. O. Box 86425 (818 W. 7th Street, 7th Floor), Los Angeles, CA 90086
☐ MTA ☐ OCTA ☐ RCTC
☒ SANBAG ☐ VCTC
☐ AMTRAK ☒ BNSF ☐ UPRR ☐ SPTC

AUTHORIZED REPRESENTATIVE

SIGNATURE

TITLE

PHONE NO.

Contract No. 08-499404

GENERAL SAFETY REGULATIONS FOR CONSTRUCTION/MAINTENANCE ACTIVITY ON RAILWAY PROPERTY

A. GENERAL

1. Safety is of first importance in the discharge of duty.
2. These safety regulations govern your activities while on SCRRA property regardless if on or off duty.
3. Use or possession of unauthorized radio equipment is forbidden. Use of personal radios, portable tape cassette players or portable disc or record players while working is prohibited.
4. Horseplay, physical altercations, running or jumping are forbidden.
5. Firearms or other deadly weapons, including knives with a blade in excess of three inches are prohibited on SCRRA or Member Agency Property.
6. Work on public streets, roadway crossings, and highway bridges should be performed with due regard for the convenience and safety of the public.
7. All employees must look in both directions before crossing any track or roadway. Crossing tracks with equipment is prohibited unless authorized by SCRRA.
8. Only authorized employees are allowed on engines, cars caboose, track cars or other railroad equipment.

B. PERSONAL PROTECTIVE EQUIPMENT

1. All employees working on SCRRA or Member Agency Property will be required to wear the following protective equipment (except in offices or motor vehicles):
 - a. Hard hats which meet the requirements of ANSI Z89.1 or ANSI Z89.2, as specified by CAL/OSHA and/or Fed/OSHA. Metallic (metal) hard hats shall not be worn on any SCRRA project.
 - b. Eye Protection which meets the requirements of ANSI Z87.1 will be worn while on SCRRA property. Eye Protection with side shields, which meet the requirements of ANSI Z87.1 for those employees or contractors falling under 49 CFR 214. See Bridge Worker Safety Policy.
 - c. Orange Safety vests with reflective tape.
 - d. High-top leatherwork boots. Steel toe boots are required for those employees who fall under 49 CFR 214. See SCRRA Bridge worker Safety Policy.
 - e. Must use appropriate gloves when working on track or signal systems.
 - f. Grinding operations require full-face shield.

C. HOUSEKEEPING

1. Keeping premises, tools and equipment in a clean and orderly condition is essential to safety and is the responsibility of each employee.
2. Employee must be aware of areas with spilled oil or grease and apply sand or an equivalent (approved) material to minimize slipping hazards.
3. Flammable materials, caustics, acids and solvents must be stored in designated areas and in containers, which are provided for them.
4. Contractor is responsible for restoring the property to its previous condition, making repairs to fences, gates, or buildings damaged or removed by Contractor or its forces.

D. ELECTRICAL

1. Electric wires must be considered live at all times. Employee shall not depend on the insulation of wires for their safety. Employee must keep away from all overhead wires and underground wires they may come in contact with.
2. Employee must not place any metal objects across rails, which could shunt electrical circuits.

E. HAND TOOLS

1. Employees must inspect tools, machinery and equipment for defects before using.
2. Employees must use all tools and appliances in the manner intended and for the purpose designed and only those employees qualified and authorized to operate equipment and machinery can do so in the performance of duty.
3. Sharp-edge tools are to be sheathed at all times while being stored or transported.

F. ACCIDENT AND INJURY

1. When persons are injured, everything possible must be done for their care.
2. Accidents, personal injury to Employee, defects in track, bridges or signals or any unusual condition which may affect the safe and efficient operation of the SCRRA's and its Operating Railroad's operations, must be reported immediately to the Project Manager or Inspector.
3. Employees must exercise care to prevent injury to themselves or others. They must be alert and attentive at all times when performing their work and plan their work to avoid injury.
4. In case of personal injury, loss of life, or damage to property, the Foreman (Supervisor or others in charge) must immediately secure the names, addresses and occupations of all persons involved, including all persons at the scene regardless of whether these persons admit knowing anything about the accident. This information should be included in reports covering each occurrence.
5. If an accident causes personal injury or death, all tools, machinery and other equipment involved, including premises where such accident occurred, must be promptly inspected by the Foreman or by other competent inspectors. A report of such inspection, stating the conditions found and names of persons making the inspection, must be promptly forwarded to SCRRA and the supervising officer of person making the inspection.
6. Information concerning accidents or personal injuries occurring to persons who are not Employee must not be given to anyone except authorized representatives of the SCRRA or an officer of the law.
7. Prior to starting work, each crew will have available on site, a list of emergency phone numbers (ambulance, police, SCRRA's and/or its operating railroad's representative and the Central Control Facility) to contact if necessary.
8. Each crew will possess and maintain at each work site, an OSHA approved first-aid (36-unit minimum).

G. RAILROAD SAFETY FOR NON-RAILROAD EMPLOYEES

1. Foremen working on or about tracks are responsible for the safety of their crews and must guard their crews against impending danger or injury. They shall bear in mind that safety is the first and most important consideration. Foremen must have knowledge of train and engines and that protection, as required by regulation, has been furnished.
2. The Contractor must request and arrange for an inspector and/or other protective services from SCRRA authorized representative's five days before the work, for the following conditions:
 - a. Protective Services for work around the railroad include form "B's" track and time and work and time. This protection can only be obtained by a qualified railroad inspector.
 - When Contractor's employee(s) and equipment(s) are within twenty (20) feet of the nearest rail.
 - When any part of any equipment is standing or being operated within or adjacent to the Property, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.
 - For any excavation below the elevation of track sub-grade if, in the opinion of SCRRA or Member Agency's representative, track or other Property may be subject to settlement or movement.
 - For any clearing, grubbing, grading, or blasting proximity to the Property which, in the opinion of SCRRA or Member Agency's representative, may endanger the property or operations.

For any street construction and maintenance activities requiring temporary work area traffic control which may affect or create unsafe conditions for employees, public, trains and vehicles.

3. SCRRA or Member Agency will furnish such employee or other protective services when, in the opinion of SCRRA's representative, the property, including but not limited to tracks, buildings, signals, wire lines or pipelines, may be endangered.
4. A job briefing (meeting among all of the employees who are involved or will be involved in particular task or job at the same work site), conforming to FRA, s regulations concerning roadway work protection, must be attended by contractor's employees before performing any task and/or any employee fouls (an individual or an equipment's in such proximity of a track that they would be struck by a moving train or on- track equipment) any track. The job briefing will include designation of an employee in charge, type of protection, limits and time of the protection, how to clear for trains and identify area of clearing.
5. Any SCRRA authorized work within twenty (20) feet of the nearest rail must be stopped, with equipment in the clear, when trains are approaching. All employees must stand back at least twenty-five (25) feet from the tracks. If it is not possible to stand 25 feet back, then employee must stand back as far as possible.
6. Movable equipment or vehicles will be:
 - operated by authorized employee only
 - operated to avoid damage to equipment or injury to occupant due to condition of route traveled account presence of concealed obstruction or holes.
 - properly secured and clear of tracks when equipment stands idle
 - parked in such a manner as not to impair vision from public roads or track right-of-way

7. Movable equipment or vehicle will not be:
 - left unattended in close proximity to railroad tracks and must be secured when left unattended
 - stored or left temporarily near a highway grade crossing in such a manner as to interfere with the sight distances of persons approaching that crossing
 - set in motion until it is known that the way is clear
 - operated in a manner to endanger life, limb or property
 - operated when safety appliance or device is missing, damaged, and inoperative or not functioning as designed
8. Equipment Operator's responsibility
 - Operators of machines or equipment are charged with the responsibility of knowing that their machines are in safe, operating condition before starting, and must assure themselves that proper protection is being afforded their operations. Operator must make a running test of brakes before actual operation of work equipment.
 - When equipment is left unattended, motor must be topped, ignition must be locked, parking or hand brake must be securely set, keys must be in possession of operator or other authorized Employee, wheels must be securely blocked on grades, and equipment should be secured in highly visible area.
 - While train engine or cars are passing, brakes or other mechanism for securing rotating machinery must be used to prevent possibility of rotating parts moving; all buckets on shovels or cranes must be lowered to rest; and those without buckets must have their load line tightened to prevent movement.
 - Operators are responsible for seeing that unauthorized persons are not carried on equipment and must know that persons qualified to be on equipment are properly positioned before movement is made.
 - Operators of equipment must know the locations of overhead and underground utilities. Operator must have a clear understanding of how to protect utility lines before operating machinery.
9. Employees must not cross tracks by going underneath cars/engines or between cars coupled together.
10. Employees must not step on rails, frogs or switches and must watch their footing to avoid falling slipping or tripping. Personnel must not step on moving parts of track switches.
11. Employees must not make any move toward an approaching train with machinery that would cause the engineer to believe the track was going to be fouled.
12. Before starting work on or about the tracks, crews must have an understanding as to where they will go when necessary to clear for trains.
13. Trains are traveling faster than they appear and are relatively quiet. Moving trains are to be expected on any track at any time from either direction. Engines can push or pull a train. Employee should not rely on past experiences to determine train schedule. Train schedules are unpredictable and trains are subject to schedule change.

END